

February 18, 2014

Mr. Peter Ruttan  
California Department of Toxic Substances Control  
8800 Cal Center Drive  
Sacramento, CA 95826

RE: Off-Site Soil Sampling Report  
Exide Technologies  
Vernon, California

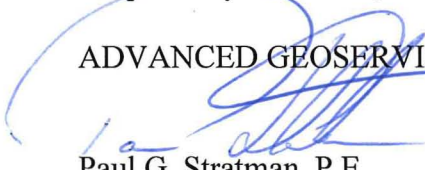
Dear Mr. Ruttan:

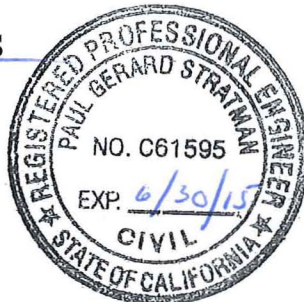
Advanced GeoServices is pleased to submit this Off-Site Soil Sampling Report on behalf of Exide Technologies (Exide). The report contains the results of the sampling program conducted in residential areas and at two schools in the general vicinity of Exide's Vernon, California facility. The work was performed in accordance with the approved Work Plan for Off-Site Soil Sampling dated November 15, 2013.

If you have any questions regarding this report, please contact Barbara Forslund at 610-840-9145 or bforlund@advancedgeoservices.com.

Respectfully submitted,

ADVANCED GEOSERVICES

  
Paul G. Stratman, P.E.  
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PGS:vm

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**OFF-SITE SOIL SAMPLING REPORT  
EXIDE TECHNOLOGIES  
VERNON, CALIFORNIA**

*Prepared for:*  
**EXIDE TECHNOLOGIES  
Vernon, California**



**OFF-SITE SOIL SAMPLING REPORT  
EXIDE TECHNOLOGIES  
VERNON, CALIFORNIA**

*Prepared For:*

**EXIDE TECHNOLOGIES  
Vernon, California**

*Prepared By:*

**ADVANCED GEOSERVICES  
West Chester, Pennsylvania**

**Project No. 2013-3007-07  
February 18, 2014**



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EXIDE TECHNOLOGIES  
VERNON, CALIFORNIA**

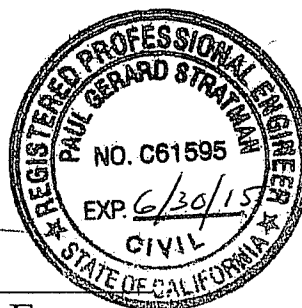
*Prepared For:*

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February 18, 2014**



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## TABLE OF CONTENTS

	<u>PAGE NO.</u>
Executive Summary .....	ES-1
1.0 Introduction.....	1-1
2.0 Property Access .....	2-1
3.0 Sampling Performed .....	3-1
4.0 Laboratory Preparation and Analysis.....	4-1
5.0 Sampling Results and Data Evaluation.....	5-1
5.1 Lead and Arsenic Results .....	5-1
5.1.1 Comparison of Lead and Arsenic Levels in the Northern and Southern Assessment Areas.....	5-3
5.1.2 Soil Lead Concentrations Compared to House Age .....	5-4
5.2 Results for Constituents Other Than Lead and Arsenic .....	5-4
5.2.1 Inorganic Constituents .....	5-4
5.2.2 Organic Constituents.....	5-5
5.3 School Sampling Results.....	5-7
6.0 Conclusions.....	6-1

## References

## LIST OF TABLES

### TABLE

1	Residential and Industrial Soil Screening Values
2	Sample Results for 0-1 Inch Interval Background Area
3	Sample Results for 1-3 Inch Interval Background Area
4	Sample Results for 0-1 Inch Interval Northern Assessment Area
5	Sample Results for 1-3 Inch Interval Northern Assessment Area
6	Sample Results for 0-1 Inch Interval Southern Assessment Area
7	Sample Results for 1-3 Inch Interval Southern Assessment Area



## LIST OF TABLES

(Continued)

### TABLE

- |    |  |
|----|--|
| 8  | Sample Results for 3-6 Inch Interval Northern Assessment, Southern Assessment and Background Areas |
| 9  | Summary Statistics for Lead  |
| 10 | Sieved and Unsieved Sample Soil Lead Results   |
| 11 | 0-1 Inch Interval Dioxins/Furans Results   |
| 12 | Schools Sampling Results   |

## LIST OF FIGURES

### FIGURE

- |   |   |
|---|---|
| 1 | Northern and Southern Assessment Areas and Schools Location Plan  |
| 2 | Location of Background Area Relative to Exide                     |
| 3 | Soil Lead Data  |
| 4 | Sieved vs Unsieved Sample Lead Concentrations                     |
| 5 | Spatial Relationship to the Exide Facility                        |
| 6 | Relationship between Surface Soil Lead and Distance from Facility |
| 7 | Surface Soil Lead vs House Age                                    |
| 8 | Dioxins/Furans Comparison   |

## LIST OF APPENDICES

### APPENDIX

- |   |   |
|---|---|
| A | Access Agreements                           |
| B | Property Sketches                           |
| C | Sample Results and Laboratory Data Packages |



## EXECUTIVE SUMMARY

In November 2013, Exide Technologies, (through its contractors, Advanced GeoServices Corp., ENVIRON International Corporation) with oversight by the California Department of Toxic Substances Control (DTSC), conducted soil sampling at residential properties in the general vicinity of the Exide Technologies facility in Vernon, California,, at two area schools and in a background area located about 14 miles to the south of the facility. The purpose of the sampling was to determine whether off-site residential soils had concentrations of selected constituents that are greater than background or residential screening values.

Sampling took place in areas determined by DTSC based on previously approved air modeling. The Northern Assessment Area for soil sampling, located in Boyle Heights and East Los Angeles, was established based on the maximum exposed individual resident (MEIR) for arsenic emissions, while the Southern Assessment Area, located in Maywood, was based on the MEIR for lead emissions. The two schools, one located north of the facility and one located south of the facility, were also selected based on the air model predictions of maximum exposure. The Background Area was located in Long Beach and was selected as a similar residential area located proximate to freeways, industrial areas and a sizable rail yard with an intermodal facility and switching yard.

Nineteen properties were sampled in the Background Area, nineteen properties were sampled in the Northern Assessment Area and twenty properties were sampled in the Southern Assessment Area. Samples were taken from three depth intervals, 0 to 1 inch, 1 to 3 inches and 3 to 6 inches below the ground surface, and the samples analyzed for up to 24 constituents selected by DTSC. The results were compared to the site specific background and U.S. Environmental Protection Agency (USEPA) and DTSC soil screening levels. However, in and of themselves, screening levels are not cleanup levels or indicative of hazardous conditions. Thus, an additional comparison for the soil lead results was made to the California Department of Public Health (CDPH) defined hazard level for bare soils where children play of 400 mg/kg and the hazard level for all soils of 1000 mg/kg.

While the soils in the Northern and Southern Assessment Areas had lead concentrations above background and the DTSC soil screening level of 80 mg/kg at all three depth intervals, the surface soils (0 to 1 inch) all had concentrations below the CDPH defined hazard level of 400 mg/kg, indicating that immediate action is not needed on the properties. For the samples below the surface interval where children are less likely to be exposed, 75 out of 78 samples from the Assessment Areas were below the CDPH hazard level. The median soil lead level in the Northern Assessment Area is higher than the median soil lead level in the Southern Area at 162 mg/kg and 134 mg/kg, respectively.



The arsenic concentrations in all samples from all properties were well below the arsenic soil screening level of 12 mg/kg. The results for all other constituents were typically below their respective soil screening level or background. Dioxin furans were detected at similar concentrations in all samples tested (five surface samples from each area were tested), including the Background Area, at levels above the soil screening level but below the clean-up levels established by DTSC (DTSC, 2011).

Sampling results at the southern school location were all below residential soil screening values for all constituents (including lead and arsenic) at the depth intervals tested. For the northern school which is located within a Los Angeles County park, the sample results were below the soil screening levels for metals in the 0 to 1 inch and 3 to 6 inch intervals. The soil lead level in the 1 to 3 inch interval sample slightly exceeded the DTSC screening level at 95.4 mg/kg. This concentration is substantially below the CDPH hazard level of 400 mg/kg. The northern school samples also exceeded the screening values for total PCBs in the 0 to 1 and 1 to 3 inch depth intervals. Since the facility is not a significant source of PCBs and PCBs were not detected in residential samples that were located closer to the facility, it does not appear that the PCB concentrations detected in the northern school soils are related to emissions from the facility. A single PAH compound, benzo (a) pyrene, was detected at a concentration above respective screening level in the 0 to 1 inch and 1 to 3 inch depth intervals; the concentration was consistent with background conditions.

There are several factors that indicate that the facility is not the sole contributor to the lead levels observed in the Assessment Areas. First, there is much more lead in the soils than arsenic while agency-approved air modeling indicates that the lead and arsenic concentrations would be at about the same level if all of the lead came from the Exide facility. The air modeling would indicate that the lead concentrations in the Northern and Southern Assessment Areas would also be about the same which is not observed in the data. The lead concentrations are not much higher in the surface interval than they are at depth nor is the lead highly concentrated in the fine fraction, both of which is what is typically seen with lead impacts to soils from air emissions. There is no spatial relationship or pattern to the results that would tie them to the facility such as higher concentrations in samples closer to the facility. All of these observations point towards other contributing sources of lead in the residential area.

The soil sampling program was not designed to evaluate contributions from different sources of lead. Contributions from lead-based paint are the most common, and there are indications that lead-based paint is a contributor to soil lead in these soils. Soil lead concentrations in the properties tested here track the age of the houses on the properties. The Northern Assessment Area has the oldest housing with a median year of house construction of 1923, and the soil lead concentrations are highest in this area. The Southern Assessment Area has a median year of house construction of 1937 and the soil lead concentrations are lower than the Northern



Assessment Area. The Background Area has the newest housing with a median year of house construction of 1950, and the soil lead concentrations are the lowest. Historic use of leaded gasoline is a known contributor to soil lead levels, and is another potential contributor here with the Northern Assessment Area being close to numerous major freeways and having more heavily trafficked secondary streets than either the Southern Area or the Background Area.

Exide is presently performing a related step-out investigation that is designed to delineate soil lead and surface dust lead loading in off-site areas, both residential and industrial. In addition, Exide is conducting blood lead monitoring and will perform a risk assessment that specifically addresses the potential health risk from the soil concentrations observed here. Given the lack of clearly defined relationship between the observed concentrations and the facility and considering that the results overall are below levels that indicate immediate action is needed, we recommend that a decision to conduct further residential soil sampling on a property by property basis be deferred until the step-out investigation and risk assessment calculations are completed.



## 1.0 INTRODUCTION

This Off-Site Soil Sampling Report has been prepared by Advanced GeoServices Corp. (Advanced GeoServices) on behalf of Exide Technologies, Inc. (Exide) to document the off-site soil sampling performed in residential areas during November 14 through November 22, 2013. Additionally, sampling was performed at two local schools on November 27, 2013 and January 24, 2014. The sampling was performed consistent with the Work Plan for Off-Site Soil Sampling dated November 13, 2013 and approved by the California Department of Toxic Substances Control (DTSC) on November 18, 2013.

The off-site soil sampling was conducted at the direction of DTSC to determine whether soils at residential properties within the Northern Assessment Area and Southern Assessment Area in the general vicinity of the Exide Technologies facility in Vernon, California contain constituents that exceed background or the Residential Soil Screening Values defined herein, whichever is higher. The Northern and Southern Assessment Areas were selected based on air modeling performed by ENVIRON International Corporation (ENVIRON) to estimate the location of the Maximum Exposed Individual Resident (MEIR) (ENVIRON, 2013a). The Northern Assessment Area is located in Boyle Heights and East Los Angeles, about 4150 feet to the north of the Exide facility. The Southern Assessment Area is located in Maywood, about 4560 feet to the south of the facility. Two schools were also sampled which were selected based on the maximum school receptor locations determined by the model. The northern school is about 6400 feet to the north, and the southern school is almost 9500 feet to the south of the facility. The Exide Vernon facility, the Northern and Southern Assessment Areas and the two school locations are shown on Figure 1.

To provide a basis for comparing data from the Northern and Southern Assessment Areas, a Background Area was selected because of its proximity to major freeways, a historically industrial area, a sizable rail yard with intermodal facility and switching yard, and housing of similar size and density. The Background Area was located about 14 miles to the south of the Exide facility as shown on Figure 2.



Analyses were performed on samples for the Constituents of Potential Concern (COPCs) selected by DTSC: arsenic (As), lead (Pb), antimony (Sb), cadmium (Cd) and total chromium (Cr), polycyclic aromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCBs). A subset of samples was also tested for dioxins/furans and hexavalent chromium (Cr-VI).



## 2.0 PROPERTY ACCESS

Advanced GeoServices used the Los Angeles County tax assessor website to determine the addresses of the properties within the three study boundaries (Northern and Southern Assessment Areas and the Background Area). The website provided information on the property as a single family or multi-family property. Multi-family properties indicated properties in which there were tenants, and Advanced GeoServices did not target these properties for access. Additionally, access was obtained from the Los Angeles County Unified School District and the Los Angeles County Department of Parks and Recreation for the southern and northern school locations, respectively.

Prior to sampling a property, written access was obtained from the property owner. Access agreements were prepared in both English and Spanish along with a flyer that provided additional information as shown in Appendix A. Initially, a bilingual representative of ENVIRON solicited access in the Northern and Southern Assessment Areas accompanied by a representative of DTSC. Properties with single family homes were targeted as they were more likely to be owner occupied. As the work progressed, the ENVIRON field crew and an Advanced GeoServices representative solicited access to properties concurrent with the sampling activities along with a representative from DTSC. For the Northern and Background Areas, access was received for 19 properties in each area, while in the Southern Area, 20 access agreements were obtained due to concurrent efforts by the field crew and the Advanced GeoServices representative. Properties closest to the MEIR location within the Northern and Southern Assessment Areas were targeted to the extent possible.





### 3.0 SAMPLING PERFORMED

After obtaining signed access agreements from the property owners, representatives from ENVIRON, including one bi-lingual representative, reported to each property. A DTSC representative also observed the sampling effort to the extent their schedule allowed. The property was reviewed, and with input from DTSC, five (5) sample locations were determined based on the layout of the property. The sampling targeted bare, exposed soils and open grassy areas. No tree lawns (grassy areas between sidewalks and roadways) were sampled as part of any property. Samples were not collected from the exclusionary areas provided below.

- Within areas that were recently disturbed;
- Within five (5) feet of painted permanent structures;
- Within one (1) foot of downspouts or stormwater drainage features;
- Within two (2) feet of a roadway;
- Within five (5) feet of potential property specific contamination sources (e.g. trash burning areas, waste storage areas, etc.); and,
- Beneath crushed stone, dirt or gravel driveways or parking areas.

On a few properties, it was noted that automobiles were periodically parked on the property, and consequently, sampling was not conducted in these areas.

The Work Plan required that an additional two samples be collected where distinct play areas were observed. No distinct play areas were observed on any of the properties where samples could be collected. Two school properties were also sampled using the five-point composite sampling protocol similarly to the residential properties. On the school properties, areas where children could come into contact with the soils were targeted. Again, bare soils and grassy areas were targeted for sample collection.

Consistent with the Work Plan, samples were collected from three depth intervals in each of the five sampling locations. The three depth intervals were from 0 to 1 inches, 1 to 3 inches and 3 to 6 inches below the ground surface. Care was taken when removing existing turf, and the turf was



replaced following the sample collection. Following sampling, new topsoil was placed in the remaining holes as backfill and turf replaced as needed.

Sampling methods included using stainless steel trowels, a split core sampler and an auger sampler. When the split core sampler was utilized, all three horizons were collected in one plastic sleeve. The sleeve was then cut to collect each separate horizon and place the soil in the sample jar. Otherwise, trowels were used to collect the 0 to 1 inch and 1 to 3 inch samples, and the auger was used to collect the 3 to 6 inch sample. The field crew collected a similar volume from each sample location to provide equal amounts of soil from each discrete location for the composite sample. Following sampling on each property, the sampling equipment was decontaminated consistent with the Work Plan.

For each of the Background, Northern and Southern Assessment Areas, a duplicate sample was co-located at one of the properties and submitted to the laboratory. Additionally, an equipment blank was taken for each area and school location for a total of five equipment blanks and submitted with the soil samples.

As each individual sample for a given horizon was collected, it was placed in a 16 oz. glass jar until all samples were obtained. Typically, the 3 to 6 inch depth interval sample utilized two 16 oz. jars. The jars were then placed on ice in a cooler for either pickup by or transport to Calscience Environmental Laboratories (Calscience) of Garden Grove, California.

Field sketches were created for each property sampled. The locations of driveways, sidewalks, buildings and any other features pertinent to the sampling locations and exclusion areas were provided on the sketch. The sketches have been redacted to remove the property address for property owner privacy and are provided as Appendix B of this report.



#### 4.0 LABORATORY PREPARATION AND ANALYSIS

All samples were submitted to Calscience for analysis. Once received, Calscience homogenized the soils following their standard operating procedure. All samples from the 0 to 1 inch and 1 to 3 inch depth intervals were analyzed for arsenic (As), lead (Pb), antimony (Sb), cadmium (Cd) and total chromium (Cr), PAHs and PCBs. In addition, the 0 to 1 inch and 1 to 3 inch depth interval samples from four properties in each area (20%) were sieved by Calscience through a #60 sieve following homogenization, and the passing fraction (the portion <#60 sieve) was tested for metals only. Samples from the schools were not sieved. Samples from the 3 to 6 inch depth interval in the Assessment and Background Areas were tested for soil lead only. The 3 to 6 inch depth interval sample from the southern school was not analyzed. All results were compared to the Residential Soil Screening Values provided in Table 1.

Additionally, 5 samples from the 0 to 1 inch depth interval from each of the Assessment and Background Areas were tested for dioxins/furans. These samples were forwarded by Calscience to Maxxam Analytics International Corporation (Maxxam) of Mississauga, Ontario who performed the analysis. As per the approved Work Plan, the samples from the two schools were not tested for dioxins/furans.

The Work Plan also called for analyzing any sample for hexavalent chromium if the total chromium result exceeded the Residential Soil Screening Level for hexavalent chromium of 0.29 mg/kg. Since all of the total chromium results exceeded 0.29 mg/kg, Advanced GeoServices requested that the samples with the 10 highest total chromium results in each of the Northern and Southern Assessment Areas be tested for hexavalent chromium by Calscience for a total of 20 hexavalent chromium results. This variation to the Work Plan was made because the hexavalent chromium results presented in the Step-Out Dust and Soil Sampling Report (ENVIRON, 2013b) by ENVIRON were all below the detection limit with similar total chromium results. DTSC was notified of this change by email on January 24, 2014. The samples from the two schools were not tested for hexavalent chromium.



## 5.0 SAMPLING RESULTS AND DATA EVALUATION

Following receipt of the testing results, Advanced GeoServices performed a Level 1 review and validation of the results for the laboratory analyses performed by Calsicence and Maxxam. Complete data tables are presented in Appendix C with validation reports and laboratory data packages provided on disk.

Advanced GeoServices reviewed the data and performed a 95<sup>th</sup> Upper Confidence Limit on the Mean (UCL) calculation using United States Environmental Protection Agency's (EPA's) ProUCL program. The 95<sup>th</sup> UCL calculations are provided in Appendix C.

### 5.1 LEAD AND ARSENIC RESULTS

Tables 2 through 7 present the results from the inorganic analyses of samples from the Background and Northern and Southern Assessment Areas in the 0 to 1 inch and 1 to 3 inch depth intervals. Samples from the 3 to 6 inch depth interval were analyzed for lead only; the results are presented in Table 8. Table 9 provides summary statistics for the soil lead results for all depth intervals.

Overall, there is a distinct difference in lead concentrations between the Assessment Areas and the Background Area as shown on Figure 3. In the 0 to 1 inch depth interval, the lead levels in the Northern Assessment Area are the highest with a median concentration of 162 mg/kg while the median concentration in the Southern Assessment Area is 134 mg/kg. These values can be compared to the median concentration in the Background Area of 54.8 mg/kg. The 95<sup>th</sup> UCL lead concentration in the Background Area is 76.6 mg/kg, just under the Residential Soil Screening Value, so the results in the Assessment areas are compared to the screening value of 80 mg/kg. Arsenic concentrations were all below the 12 mg/kg Residential Soil Screening Value in each of the three areas.



The median lead concentrations in the 1 to 3 inch interval results tend to be slightly higher than the 0 to 1 inch interval in all three areas. In the Background Area, the median soil lead concentration in the 1 to 3 inch depth interval increases to 58.9 mg/kg from the median concentration of 54.8 mg/kg in the 0 to 1 inch interval. The median concentration increases to 177 mg/kg from 162 mg/kg in the Northern Assessment Area and to 153 mg/kg from 134 mg/kg in the Southern Assessment Area. The median lead concentrations remain elevated in the 3 to 6 inch depth interval, as shown in Figure 3.

The lead concentration for the 3 to 6 inch depth interval sample for one property within the Northern Assessment Area was reported as 2030 mg/kg. The 0 to 1 inch and 1 to 3 inch depth interval sample results were 342 and 454 mg/kg, respectively, at the property. Given the distinct difference in lead concentrations from the overlying samples, Advanced GeoServices requested the laboratory to analyze three additional aliquots from the 3 to 6 inch interval sample. The results of the additional analyses were 419, 385 and 381 mg/kg, consistent with the other results for the property. While review of the data through the validation process did not provide an explanation for the original result, given the other data for the property and the results at nearby properties, it can be concluded that the original result was anomalous and not representative of the conditions at the property. Consequently, the original result is not being used in the data evaluation; the average concentration of the three samples is 395 mg/kg which was used for the calculations.

Eight samples from each of the Background, and Northern and Southern Assessment Areas were sieved as part of the sampling analysis. The data are provided as Table 10. A linear regression analysis was performed between the two data sets as shown on Figure 4. The regression shows that the lead concentrations in the sieved samples is only slightly higher than the concentration in the original unsieved sample indicating that the lead is not highly concentrated in the fine fraction.



The lead data for 0 to 1 inch depth interval for the Northern and Southern Assessment Areas was plotted relative to the Exide facility to assess the spatial relationship between the sample results and the facility. As shown on Figures 5 and 6, the lead results do not show any trends of decreasing concentration with increasing distance from the facility.

#### 5.1.1 Comparison of Lead and Arsenic Levels in the Northern and Southern Assessment Areas

As previously noted, the Assessment Areas were selected based on air modeling performed by ENVIRON as part of the AB2588 Health Risk Assessment dated January 2013 (ENVIRON, 2013a) that was reviewed by the South Coast Air Quality Management District which indicated its concurrence in an approval letter dated March 1, 2013. The modeling established the MEIR and the maximum school receptor locations for lead and arsenic that are shown on Figure 1. The Northern Assessment Area was based on the MEIR for arsenic while the Southern Assessment Area was based on the MEIR for lead. The following table shows the modeled air concentrations at the MEIR locations:

	Max. Lead Conc. (ug/m <sup>3</sup> )	Max. Arsenic Conc. (ug/m <sup>3</sup> )
North MEIR	3.12E-03	1.08E-03
South MEIR	3.76E-03	8.23E-04

The modeling shows that lead impacts from the facility would be expected to be similar between the Northern and Southern Assessment Areas. However, the lead data show a distinct difference in concentrations between the Northern and Southern Assessment Areas with median concentrations of 162 mg/kg versus 134 mg/kg, respectively in the 0 to 1 inch depth interval while the median arsenic concentrations are similar (3.13 mg/kg versus 1.94 mg/kg).

This difference in lead concentrations indicates that there is another source (or sources) of lead contributing to the observed concentrations in the Assessment Areas.



### 5.1.2 Soil Lead Concentrations Compared to House Age

A common contributor to soil lead concentrations in residential areas is lead-based paint which was commonly used in housing up until it was banned in 1978 (USEPA, 1996). To evaluate whether lead-based paint may be contributing to the observed soil lead concentrations, house ages were determined using Zillow ([www.zillow.com](http://www.zillow.com)) and plotted against the lead result for the 0 to 1 inch depth interval sample. The result of this comparison is shown on Figure 7 which shows that higher soil lead levels were encountered in older housing. The three areas that were sampled have housing stock of differing ages which track the differences in soil lead concentrations. The Northern Assessment Area has the oldest housing with the median year of house construction of 1923 and the highest median soil lead concentration at 162 mg/kg. The Southern Assessment Area has housing stock that is less old with a median year of house construction of 1937, and the median soil concentration is 134 mg/kg. The background area has the newest housing with a median construction year of 1950 and the lowest median soil lead concentration of 54.8 mg/kg. The analysis shows that lead-based paint may be contributing to the soil lead concentrations observed in the Assessment Areas.

## 5.2 RESULTS FOR CONSTITUENTS OTHER THAN LEAD AND ARSENIC

### 5.2.1 Inorganic Constituents

The results for antimony were below the detection limit for all samples. Most of the results for cadmium were below the detection limit, or the detected concentrations were below the Residential Soil Screening Value of 4 mg/kg with the exception of one sample in the Background Area which was slightly above the screening value at 4.24 mg/kg.

Results for total chromium were all below the Residential Soil Screening Value of 120,000 mg/kg. However, the results were above 0.29 mg/kg, the Residential Soil Screening Value for hexavalent chromium. The Work Plan required that if total chromium concentrations were above 0.29 mg/kg, then additional testing be performed to determine the concentration of hexavalent chromium. However, since similar testing performed by ENVIRON in its Step-Out



Soil and Dust Sampling (ENVIRON, 2013b) did not have any detectable levels of hexavalent chromium with similar total chromium concentrations and to avoid unnecessary analytical costs, the 10 samples with the highest total chromium results from each area were tested. All results for hexavalent chromium were below the detection limit.

## 5.2.2 Organic Constituents

### 5.2.2.1 **PCBs**

Samples from collected the 0 to 1 inch and 1 to 3 inch depth intervals were analyzed for PCBs within the Background and Assessment Areas. For both the Background and Northern Assessment Areas, PCBs were all below the detection limit. For the Southern Assessment Area, there were results above the detection limit for individual Aroclors in two samples in the 0 to 1 inch interval and two samples in the 1 to 3 inch interval. No single sample had total detected PCBs above the Residential Soil Screening Value of 220 mg/kg. Sampling results are provided in Appendix C.

### 5.2.2.2 **PAHs**

Samples collected from the Background and Assessment Areas from the 0 to 1 inch and 1 to 3 inch depth intervals were analyzed for PAHs. Within the Background Area, there were concentrations above the Residential Soil Screening Values for several PAHs including:

- 0 to 1 inch interval: Benzo (b) Fluoranthene, Benzo (a) Pyrene and Dibenz (a,h) Anthracene
- 1 to 3 inch interval: Benzo (b) Fluoranthene, Benzo (a) Pyrene and Dibenz (a,h) Anthracene

Benzo (a) pyrene was detected at concentrations above the screening value in all but one sample at both the 0 to 1 inch and 1 to 3 inch depth intervals in the Background Area.





Only one sample in the Northern Assessment Area (SS-MEIR-N-18) had individual PAH compounds detected above their respective Residential Soil Screening Values other than benzo (a) pyrene. No PAH compound other than benzo (a) pyrene was detected above its screening value in the Southern Assessment Area. Benzo (a) pyrene was detected at a concentration above the screening level in 6 out of 19 samples in the 0 to 1 inch depth interval and 7 of 19 samples in the 1 to 3 inch depth interval in the Northern Assessment Area. In the Southern Assessment Area, benzo (a) pyrene was detected at a concentration above the screening level in 16 of 20 samples in the 0 to 1 inch depth interval and 13 of 20 samples in the 1 to 3 inch depth interval. The average concentration of benzo (a) pyrene where it was detected was similar to background in the Northern Assessment Area and less than background in the Southern Assessment Area. Sampling results are provided in Appendix C.

#### **5.2.2.3 Dioxin/Furan Testing**

Five samples from each of the Background and Northern and Southern Assessment Areas were analyzed for Dioxin/Furans, and the results are provided in Appendix C. Toxic Equivalents (as 2,3,7,7-TCDD) (TEQ) were calculated using the Kaplan Meier (KM) Technique in order to compare the results to the USEPA Residential Soil Screening Value of 4.5 KM TEQ (ng/kg) provided in Table 1.

The results are provided in Table 11 and presented graphically on Figure 8. When compared to the residential soil screening value, all but one of the sample results from all three areas exceeded the residential soil screening value. The concentrations in the Southern Assessment Area are the lowest with an average concentration of 5.4 ng/kg. The average in the Background Area was 8.5 ng/kg while the average in the Northern Assessment Area was 11 ng/kg. Overall, it appears that the detections of dioxin/furans above the residential soil screening values in residential soils is a background condition and unrelated to the facility. The detected concentrations are also below the DTSC remedial goal of 50 mg/kg (DTSC, 2011).



### 5.3 SCHOOL SAMPLING RESULTS

Two schools were sampled as part of the off-site sampling event. The Ruben F. Salazar Park north of the Exide Facility where the Volunteers of America Head Start School is located and the San Antonio Elementary School south of the Exide Facility were sampled consistent with the Work Plan.

Samples from the southern school showed results below the detection limit or less than the Residential Soil Screening Value for metals, PCBs and PAHs. The sample results for the northern school location within Salazar Park had a sample from the 1 to 3 inch depth interval above the Residential Soil Screening Value for lead at 95.4 mg/kg. The 0 to 1 inch and 3 to 6 inch depth interval sample lead results were below the Residential Soil Screening Value. Total PCB concentrations for both the 0 to 1 inch depth interval (310 microgram/kilogram [ug/kg]) and the 1 to 3 inch depth interval (524 ug/kg) were above the Residential Soil Screening Value of 220 ug/kg. The PAHs concentrations were either below the detection limit or below the respective screening values except for benzo(a)pyrene which was present in the 0 to 1 inch and 1 to 3 inch depth interval samples at concentrations similar to background. The metals, PCB and benzo(a)pyrene results for the two schools are provided in Table 12. Complete data tables are provided in Appendix C with validated result packages on disk.



## 6.0 CONCLUSIONS

Based upon review of the data developed during this off-site soil sampling program and experience with similar soil sampling programs in residential areas surrounding secondary lead smelters, Advanced GeoServices draws the following conclusions:

1. Lead was the only inorganic constituent tested that was above its DTSC Residential Soil Screening Value of 80 mg/kg in the Northern and Southern Assessment Areas. The concentrations of arsenic and other inorganic constituents were all below their Residential Soil Screening Value and were typically within the range observed in the Background Area soils.
2. The median lead concentration in soil in the Northern Assessment Area was higher than in the Southern Assessment Area, and both are higher than the Background Area that was tested. The median lead concentration in the Northern Area was 162 mg/kg versus 134 mg/kg in the Southern Area. In comparison, the median lead concentration in the Background Area was 54.8 mg/kg.
3. Since screening levels are not clean-up levels and do not indicate a hazardous condition in and of themselves, the results were also compared to the California Department of Public Health (CDPH) hazard level for bare soils where children play of 400 mg/kg  
[<http://www.cdph.ca.gov/programs/CLPPB/Pages/LRCHomeLeadTest.aspx>].  
Lead concentrations in the surface (0 to 1 inch) soil interval were all below 400 mg/kg indicating that there is no need for immediate action based on the observed results. Most of the properties sampled had grass covering the soils, and few properties had clearly identified play areas in the yard. For soils such as these (i.e., all soils except bare areas where children play), the CDPH defined hazard level is 1000 mg/kg.



4. For the 1 to 3 inch soil interval which has less exposure potential than the 0 to 1 inch depth interval, only 1 lead result out of 19 samples from the Northern Assessment Area was slightly above the CDPH hazard level for lead in bare surface soils where children play of 400 mg/kg (at a concentration of 454 mg/kg). This level is well below the CDPH hazard level for lead in all other soil areas of 1,000 mg/kg. In the Southern Assessment Area, all soil lead results from the 1 to 3 inch depth interval were below 400 mg/kg.
5. Two samples from the deeper, 3 to 6 inch soil interval in the Northern Assessment Area had lead concentrations above the CDPH hazard level for soil at 582 mg/kg and 2030 mg/kg. The higher concentration was detected at the same property where the 1 to 3 inch soil interval also exceeded 400 mg/kg. At this property, the initial soil lead concentration reported by the laboratory for the 3 to 6 inch soil interval was 2030 mg/kg. Since this result was almost four times higher than the next highest sample result from that depth interval and more than four times higher than the 1 to 3 inch interval, the laboratory was instructed to analyze three additional aliquots of the soil sample. These results averaged 395 mg/kg, much more consistent with the rest of the data set. Therefore, based on the further laboratory analysis, we conclude that the initial reading of 2030 mg/kg is anomalous and is not representative of the conditions at the property. The average result from the reanalysis of 395 mg/kg was used for data evaluation. In the Southern Assessment Area, all soil lead results from the 3 to 6 inch depth interval were below 400 mg/kg.
6. The sampling program was not designed to establish sources of soil lead on the residential properties, and other sources of lead such as lead-based paint and leaded gasoline are common in urban residential soils such as the ones sampled here. The data indicate that lead concentrations in the 0 to 1 inch soil interval tend to be associated with the year of house construction. The houses in the Northern Assessment Area are the oldest with the median year of house construction of 1923, and the soil lead concentrations are highest in this area. The



median years of house construction in the Southern and Background Areas were 1937 and 1950, respectively. The median lead concentrations track the differences in house age with the Southern Area having higher concentrations than the background but lower than the Northern area which had the oldest housing. These observations indicate that one potential source for the higher lead concentrations in the Northern and Southern Assessment Areas may be the weathering of exterior lead based paint, which is more prevalent in pre-World War II housing stock. According to the USEPA, in their 1996 document “Distribution of Soil Lead in the Nation’s Housing Stock”, the strongest statistical predictor of soil lead was building age [<http://www2.epa.gov/lead/executive-summary-epa-747-r-96-002>]. The historic use of leaded gasoline is another potential source as the Northern Assessment Area is close to numerous major freeways and has more heavily trafficked secondary roads.

7. For the following reasons, sources other than facility emissions may be contributing to the observed soil lead concentrations:
  - The data from the different depth intervals do not show a decrease with increasing depth. Overall, the median soil lead concentration in the 1 to 3 inch interval is higher than the 0 to 1 inch interval. Typically, at other sites where soils were impacted by airborne emissions, the concentrations decrease significantly with depth, which was not observed here.
  - Lead did not concentrate significantly in the fine fraction passing the #60 sieve. This also is not typical of impacts from airborne emissions, which are comprised of very small particles.
  - If the facility were the source of all concentrations, then one would expect decreasing concentrations with increasing distance from the facility. The sampling, however, does not indicate a discernable pattern. This may reflect that other factors, such as relative house age and the presence of lead-based paints, may be contributing to the observed value.



- Previous air modeling would indicate that the lead impacts, and thus the soil lead concentrations, in the Northern Area would be comparable to the Southern Area if the facility were the source. This is not what is observed in the data.
8. For the organic constituents, there were no exceedances of the soil screening levels for PCBs in the residential areas. Individual PAHs exceeded their soil screening value more frequently in the background area. The dioxin furan results typically exceeded the soil screening value in all three areas. The average concentrations of the dioxin/furans expressed as 2,3,7,8-TCDD for the Background, Northern and Southern Assessment Areas were 8.5, 11 and 5.4 ng/kg, respectively. The presence of organic constituents above the residential soil screening values should not be attributed to the facility if the lead and arsenic concentrations cannot be attributed to the facility.
9. All sample results from the southern school location were below the soil screening level for all depth intervals tested. The results for the northern school samples, located within Salazar Park, were below the soil screening level for lead in the 0 to 1 inch and 3 to 6 inch depth interval samples. The 1 to 3 inch depth interval sample result was slightly above the residential soil screening value of 80 mg/kg for lead at a concentration of 95.4 mg/kg. Northern school samples also exceeded the screening value for PCBs in the 0 to 1 inch and 1 to 3 inch depth intervals and for benzo (a) pyrene. Since the school is located further to the north than the Northern Assessment Area and PCBs detected were not detected in samples closer to the facility in the Northern Assessment Area, the presence of PCBs in the park sample should not be attributed to the facility. The presence of benzo (a) pyrene in the soils appears to be related to background conditions.

In summary, the sampling showed that the lead concentrations in both the Northern and Southern Assessment Areas exceeded the concentrations in the chosen background area and the DTSC Residential Soil Screening Level of 80 mg/kg. Since screening levels are not cleanup levels and



do not, in and of themselves, indicate hazardous conditions, additional comparisons were made to published values. The surface lead concentrations did not exceed the CDPH hazard level for bare soils where children play of 400 mg/kg. No confirmed lead concentrations exceeded the CDPH hazard level for all other soils of 1000 mg/kg. Other inorganic constituents did not exceed background or their respective soil screening levels. In particular, the arsenic concentrations did not exceed background or its screening value in either the Northern or Southern Assessment Area. This difference between lead and arsenic impacts indicates that source(s) other than the facility are contributing to the soil lead concentrations. One possible source is lead-based paint based on the age of the housing stock in the areas sampled. Another possible source is the historical use of leaded gasoline.

Exide is presently performing step-out sampling that is designed to delineate lead soil concentrations and surface loadings in off-site areas. In addition, Exide is performing blood lead monitoring and will perform a risk assessment to assess the potential health risks from the observed soil concentrations for all parameters. Given the lack of clear relationship between the observed soil concentrations and the facility, we recommend that further residential soil sampling on a property by property basis be deferred until the step-out sampling and risk assessment calculations are completed.



## REFERENCES

Advanced GeoServices Corp., 2013. Work Plan for Off-Site Soil Sampling. November 15.

DTSC, Office of Human and Ecological Risk (HERO), 2011. HERO HHRA Note 4, Jun 9.

ENVIRON International Corporation, 2013a. AB 2588 Health Risk Assessment. January.

ENVIRON International Corporation, 2013b. Step-out Dust and Soil Sampling Report.  
November 15.





## **TABLES**



**TABLE 1**  
**Residential and Industrial Soil Screening Values**  
**Off-Site Soil Sampling Report**  
**Exide Vernon**

Chemical <sup>a</sup>	CAS Number	Residential Soil (mg/kg)		Industrial Soil (mg/kg)		Analytical Method
Arsenic	7440-38-2	1.2E+01	LAUSD/DTSC	1.2E+01	LAUSD/DTSC	USEPA 6020
Lead	7439-92-1	8.0E+01	DTSC 2013	3.2E+02	DTSC 2013	USEPA 6020
Antimony	7440-36-0	3.1E+01	USEPA RSL 2013	4.1E+02	USEPA RSL 2013	USEPA 6020
Cadmium	7440-43-9	4.0E+00	DTSC 2013	5.1E+00	DTSC 2013	USEPA 6020
Chromium	7440-47-3	1.2E+05	USEPA RSL 2013	1.5E+06	USEPA RSL 2013	USEPA 6020
Total PCBs	1336-36-3	2.2E-01	USEPA RSL 2013	7.4E-01	USEPA RSL 2013	USEPA 8082
Dioxins/Furans (as 2,3,7,8-TCDD)	1746-01-6	4.5E-06	USEPA RSL 2013	1.8E-05	USEPA RSL 2013	USEPA 8290
Hexavalent Chromium	18540-29-9	2.9E-01	USEPA RSL 2013	5.6E+00	USEPA RSL 2013	USEPA 7199/3060A
Acenaphthene	83-32-9	3.4E+03	USEPA RSL 2013	3.3E+04	USEPA RSL 2013	USEPA 8270C
Acenaphthylene	208-96-8	--	--	--	--	USEPA 8270C
Anthracene	120-12-7	1.7E+04	USEPA RSL 2013	1.7E+05	USEPA RSL 2013	USEPA 8270C
Benzo(a)anthracene	56-55-3	1.5E-01	USEPA RSL 2013	2.1E+00	USEPA RSL 2013	USEPA 8270C
Benzo(a)pyrene	50-32-8	1.5E-02	USEPA RSL 2013	2.1E-01	USEPA RSL 2013	USEPA 8270C
Benzo(b)fluoranthene	205-99-2	1.5E-01	USEPA RSL 2013	2.1E+00	USEPA RSL 2013	USEPA 8270C
Benzo(ghi)perylene	191-24-2	--	--	--	--	USEPA 8270C
Benzo(k)fluoranthene	207-08-9	3.8E-01	DTSC 2013	1.3E+00	DTSC 2013	USEPA 8270C
Chrysene	218-01-9	3.8E+00	DTSC 2013	1.3E+01	DTSC 2013	USEPA 8270C
Dibenzo(a,h)anthracene	53-70-3	1.5E-02	USEPA RSL 2013	2.1E-01	USEPA RSL 2013	USEPA 8270C
Fluoranthene	206-44-0	2.3E+03	USEPA RSL 2013	2.2E+04	USEPA RSL 2013	USEPA 8270C
Fluorene	86-73-7	2.3E+03	USEPA RSL 2013	2.2E+04	USEPA RSL 2013	USEPA 8270C
Indeno(1,2,3-cd)pyrene	193-39-5	1.5E-01	USEPA RSL 2013	2.1E+00	USEPA RSL 2013	USEPA 8270C
Naphthalene	91-20-3	3.6E+00	USEPA RSL 2013	1.8E+01	USEPA RSL 2013	USEPA 8270C
Phenanthrene	85-01-8	--	--	--	--	USEPA 8270C
Pyrene	129-00-0	1.7E+03	USEPA RSL 2013	1.7E+04	USEPA RSL 2013	USEPA 8270C

**Notes:**

-- = Not available

mg/kg = milligram per kilogram

DTSC = Department of Toxic Substances Control

LAUSD = Los Angeles Unified School District

PAH = Polycyclic Aromatic Hydrocarbons

RSL = Regional Screening Level

TCDD = Tetrachlorodibenzodioxin

USEPA = United States Environmental Protection Agency

**Sources:**

Department of Toxic Substances Control (DTSC). 2013. Human Health Risk Assessment (HHRA) Note Number 3, Issue: DTSC recommended methodology for use of U.S. EPA Regional Screening Levels (RSLs) in the Human Health Risk Assessment process at hazardous waste sites and permitted facilities. May.

United States Environmental Protection Agency (USEPA). 2013. Regional Screening Levels (RSLs) Summary Table. May.

Available at <http://www.epa.gov/region9/superfund/prg/index.html>.

**TABLE 2**  
**Sample Results for 0-1 Inch Interval**  
**Background Area**  
**Off-Site Soil Sampling Report**  
**Exide Vernon**



	Year House Built	Lead (mg/kg)	Arsenic (mg/kg)	Antimony (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)
<b>Residential Soil Screening Value</b>	<b>NA</b>	<b>80</b>	<b>12</b>	<b>31</b>	<b>4</b>	<b>120,000</b>
<b>Sample ID</b>						
SS-BG-01-1	1980	61.7	3.64	ND	1.39	20.3
SS-BG-02-1	1957	54.2	2.92	ND	ND	18.7
SS-BG-03-1	1954	58.1	2.35	ND	ND	21.1
SS-BG-04-1	1953	68.7	5.92	ND	ND	25.4
SS-BG-05-1	1949	<b>121</b>	3.51	ND	1.11	23.4
SS-BG-06-1	1929	54.8	4.25	ND	ND	21.5
SS-BG-07-1	1966	43.9	5.29	ND	ND	24.3
SS-BG-08-1	1938	<b>132</b>	7.48	ND	3.32	138
SS-BG-09-1	1940	<b>81.1</b>	4.22	ND	ND	19.5
SS-BG-10-1	1950	48.3	3.42	ND	ND	19.5
SS-BG-11-1	1945	<b>97.5</b>	8.68	ND	ND	19.3
SS-BG-12-1	1948	35.8	2.56	ND	ND	20.4
SS-BG-13-1	1950	34.8	2.82	ND	ND	15.3
SS-BG-14-1	1950	58.6	3.67	ND	ND	20.6
SS-BG-15-1	1968	43.5	2.87	ND	ND	15.4
SS-BG-16-1	1944	<b>88.2</b>	3.75	ND	ND	19
SS-BG-17-1	1947	51.1	2.37	ND	ND	15.5
SS-BG-18-1	1954	38	6.89	ND	ND	19.7
SS-BG-19-1	1947	29.4	3.83	ND	ND	19.5
<b>Additional Analyses</b>						
SS-BG-07-1 (Sieved)		46.5	5.04	ND	ND	24.4
SS-BG-08-1 (Sieved)		<b>136</b>	7.75	ND	3.14	142
SS-BG-09-1 (Sieved)		<b>83.6</b>	3.76	ND	ND	21.4
SS-BG-10-1 (Sieved)		53.4	3.18	ND	ND	30.3
SS-BG-20-1 (Dup of 08)		<b>138</b>	7.72	ND	3.5	146

**Summary Statistics for Unsieved Sample Results**

	Lead (mg/kg)	Arsenic (mg/kg)	Antimony (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)
Max	132	8.68	ND	3.32	138
Min	29.4	2.35	ND	1.11	15.3
Avg	63.2	4.23	ND	1.94	26.1
Median	54.8	3.67	ND	1.39	19.7
95th UCL	76.6	5.1			

ND = Non-Detect

**93** Designates above Residential Soil Screening Value

**TABLE 3**  
**Sample Results for 1-3 Inch Interval**  
**Background Area**  
**Off-Site Soil Sampling Report**  
**Exide Vernon**



	Year House Built	Lead (mg/kg)	Arsenic (mg/kg)	Antimony (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)
<b>Residential Soil Screening Value</b>	<b>NA</b>	<b>80</b>	<b>12</b>	<b>31</b>	<b>4</b>	<b>120,000</b>
<b>Sample ID</b>						
SS-BG-01-3	1980	66.4	3.92	ND	1.41	25.6
SS-BG-02-3	1957	45.5	3.58	ND	ND	19
SS-BG-03-3	1954	<b>82.9</b>	3.41	ND	1.27	23.3
SS-BG-04-3	1953	64.9	6.53	ND	ND	24.5
SS-BG-05-3	1949	<b>83.3</b>	3.59	ND	ND	24
SS-BG-06-3	1929	55.8	5.43	ND	ND	25.5
SS-BG-07-3	1966	50.5	5.94	ND	ND	25
SS-BG-08-3	1938	<b>195</b>	11.5	ND	<b>4.24</b>	211
SS-BG-09-3	1940	45.6	4.29	ND	ND	21.2
SS-BG-10-3	1950	46.2	4.21	ND	ND	20.8
SS-BG-11-3	1945	<b>96</b>	9.4	ND	ND	20.1
SS-BG-12-3	1948	72	2.96	ND	ND	32.1
SS-BG-13-3	1950	41.6	2.85	ND	ND	14.6
SS-BG-14-3	1950	58.9	3.41	ND	ND	20
SS-BG-15-3	1968	54.2	3.18	ND	ND	17.2
SS-BG-16-3	1944	<b>82.9</b>	4.3	ND	ND	19.7
SS-BG-17-3	1947	54.9	3.18	ND	ND	17.8
SS-BG-18-3	1954	64.6	7.79	ND	ND	21.2
SS-BG-19-3	1947	31.5	4.43	ND	ND	19.9
<b>Additional Analyses</b>						
SS-BG-07-3 (Sieved)		55.4	5.32	ND	ND	24.4
SS-BG-08-3 (Sieved)		<b>166</b>	9.28	ND	3.54	173
SS-BG-09-3 (Sieved)		63.1	4.32	ND	ND	24
SS-BG-10-3 (Sieved)		51.7	3.76	ND	ND	21.9
SS-BG-20-3 (Dup of 08)		<b>164</b>	10.9	ND	3.5	221

**Summary Statistics for Unsieved Sample Results**

	Lead (mg/kg)	Arsenic (mg/kg)	Antimony (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)
Max	195	11.5	ND	4.24	211
Min	31.5	2.85	ND	1.27	14.6
Avg	68.0	4.94	ND	2.31	31.7
Median	58.9	4.21	ND	1.41	21.2
95th UCL	82.3	5.88			

ND = Non-Detect

**93**

Designates above Residential Soil Screening Value

**TABLE 4**  
**Sample Results for 0-1 Inch Interval**  
**Northern Assessment Area**  
**Off-Site Soil Sampling Report**  
**Exide Vernon**



	Year House Built	Lead (mg/kg)	Arsenic (mg/kg)	Antimony (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Hexavalent Chromium (mg/kg)
<b>Residential Soil Screening Value</b>	NA	80	12	31	4	120,000	0.29
<b>Sample ID</b>							
SS-MEIR-N-01-1	1930	228	2.88	ND	1.74	18.8	ND
SS-MEIR-N-02-1	1920	81.8	1.72	ND	ND	13.5	NS
SS-MEIR-N-03-1	1949	144	3.97	ND	1.44	24.1	ND
SS-MEIR-N-04-1	1916	164	2.55	ND	1.11	16.3	NS
SS-MEIR-N-05-1	1922	156	3.35	ND	1.98	29.5	ND
SS-MEIR-N-06-1	1923	116	2.68	ND	1.19	22.9	ND
SS-MEIR-N-07-1	1922	202	3.49	ND	1.09	14.9	NS
SS-MEIR-N-08-1	1921	248	3.22	ND	1.55	20.8	ND
SS-MEIR-N-09-1	1951	163	3.3	ND	1.66	21.9	ND
SS-MEIR-N-10-1	1922	224	1.91	ND	1.1	17	NS
SS-MEIR-N-11-1	1927	162	1.39	ND	1.06	13.1	NS
SS-MEIR-N-12-1	1927	132	1.87	ND	ND	15	NS
SS-MEIR-N-13-1	1939	146	2.32	ND	1.16	17.4	NS
SS-MEIR-N-14-1	1922	342	2.93	ND	1.91	19.5	ND
SS-MEIR-N-15-1	1991	62.5	3.13	ND	1.1	19.9	ND
SS-MEIR-N-16-1	1921	323	5.27	ND	2.42	24.3	ND
SS-MEIR-N-17-1	1954	137	3.27	ND	1.61	17.4	NS
SS-MEIR-N-18-1	1924	114	9.32	ND	ND	17.6	NS
SS-MEIR-N-19-1	1910	179	3.98	ND	1.56	21.5	ND
<b>Additional Analyses</b>							
SS-MEIR-N-04-1 (Sieved)		338	3.23	ND	1.55	20.1	NS
SS-MEIR-N-09-1 (Sieved)		202	3.46	ND	1.68	24.9	NS
SS-MEIR-N-11-1 (Sieved)		149	1.63	ND	1.12	18.6	NS
SS-MEIR-N-08-1 (Sieved)		257	3.12	2.25	1.43	26	NS
SS-MEIR-N-20-1 (Dup of 16)		339	5.85	ND	2.41	24.1	NS

**Summary Statistics for Unsieved Sample Results**

	Lead (mg/kg)	Arsenic (mg/kg)	Antimony (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Hexavalent Chromium (mg/kg)
Max	342	9.32	ND	2.42	29.5	ND
Min	62.5	1.39	ND	1.06	13.1	ND
Avg	175	3.29	ND	1.48	19.2	ND
Median	162	3.13	ND	1.50	18.8	ND
95th UCL		4.03				

ND = Non-Detect

NS = Not Sampled

Designates above Residential Soil Screening Value

**TABLE 5**  
**Sample Results for 1-3 Inch Interval**  
**Northern Assessment Area**  
**Off-Site Soil Sampling Report**  
**Exide Vernon**



	Year House Built	Lead (mg/kg)	Arsenic (mg/kg)	Antimony (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)
<b>Residential Soil Screening Value</b>	<b>NA</b>	<b>80</b>	<b>12</b>	<b>31</b>	<b>4</b>	<b>120,000</b>
<b>Sample ID</b>						
SS-MEIR-N-01-3	1930	208	3.23	ND	1.77	19.2
SS-MEIR-N-02-3	1920	107	2.14	ND	1.11	13.4
SS-MEIR-N-03-3	1949	177	4.82	ND	1.43	23.7
SS-MEIR-N-04-3	1916	330	3.06	ND	1.41	18.2
SS-MEIR-N-05-3	1922	175	3.78	ND	2.26	31.5
SS-MEIR-N-06-3	1923	141	2.96	ND	1.3	27.2
SS-MEIR-N-07-3	1922	257	3.96	ND	1.2	17.4
SS-MEIR-N-08-3	1921	224	3.13	ND	1.54	18.5
SS-MEIR-N-09-3	1951	201	3.5	ND	1.77	25.2
SS-MEIR-N-10-3	1922	251	2.41	ND	1.36	19.2
SS-MEIR-N-11-3	1927	133	2.34	ND	ND	16.8
SS-MEIR-N-12-3	1927	129	2.19	ND	ND	16.4
SS-MEIR-N-13-3	1939	174	2.19	ND	1.41	18.4
SS-MEIR-N-14-3	1922	454	3.37	ND	2.16	22.6
SS-MEIR-N-15-3	1991	70.6	3.55	ND	1.24	22.9
SS-MEIR-N-16-3	1921	253	6.79	ND	2.25	20.7
SS-MEIR-N-17-3	1954	149	3.31	ND	1.76	20.1
SS-MEIR-N-18-3	1924	126	8.39	ND	ND	15.6
SS-MEIR-N-19-3	1910	184	4.48	ND	1.69	25.5
<b>Additional Analyses</b>						
SS-MEIR-N-04-3 (Sieved)	1916	243	2.87	ND	1.56	20.4
SS-MEIR-N-08-3 (Sieved)	1921	249	3.1	ND	1.53	21.3
SS-MEIR-N-09-3 (Sieved)	1951	240	3.43	ND	1.99	28.1
SS-MEIR-N-11-3 (Sieved)	1927	171	2.45	ND	ND	20
SS-MEIR-N-20-3 (Dup of 16)	1921	411	6.79	ND	3.22	24.6

**Summary Statistics for Unsieved Sample Results**

	Lead (mg/kg)	Arsenic (mg/kg)	Antimony (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)
Max	454	8.39	ND	2.26	31.5
Min	70.6	2.14	ND	1.11	13.4
Avg	197	3.66	ND	1.60	20.7
Median	177	3.31	ND	1.49	19.2
95th UCL	232	4.36			

ND = Non-Detect

**93** Designates above Residential Soil Screening Value

**TABLE 6**  
**Sample Results for 0-1 Inch Interval**  
**Southern Assessment Area**  
**Off-Site Soil Sampling Report**  
**Exide Vernon**



	Year House Built	Lead (mg/kg)	Arsenic (mg/kg)	Antimony (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Hexavalent Chromium (mg/kg)
<b>Residential Soil Screening Value</b>	<b>NA</b>	<b>80</b>	<b>12</b>	<b>31</b>	<b>4</b>	<b>120,000</b>	<b>0.29</b>
<b>Sample ID</b>							
SS-MEIR-S-01-1	1940	122	6.53	ND	1.25	18.7	ND
SS-MEIR-S-02-1	1926	39.7	1.67	ND	ND	15.1	NS
SS-MEIR-S-03-1	1979	90.9	1.61	ND	ND	16.1	NS
SS-MEIR-S-04-1	1979	134	1.51	ND	1.14	17.2	NS
SS-MEIR-S-05-1	1927	164	2.68	ND	1.31	19.9	ND
SS-MEIR-S-06-1	1928	138	3.18	ND	1.26	20.6	ND
SS-MEIR-S-07-1	1942	144	2.05	ND	1.09	16.2	NS
SS-MEIR-S-08-1	1923	151	1.92	ND	1.09	14.4	NS
SS-MEIR-S-09-1	1937	134	2.55	ND	ND	19.2	ND
SS-MEIR-S-10-1	1937	174	1.95	ND	1.5	16.8	NS
SS-MEIR-S-11-1	1924	116	1.79	ND	1.05	15.3	NS
SS-MEIR-S-12-1	1950	140	2.9	ND	1.35	19.7	ND
SS-MEIR-S-13-1	1923	122	2.22	ND	ND	12.8	NS
SS-MEIR-S-14-1	1929	156	1.79	ND	1.5	23.1	ND
SS-MEIR-S-15-1	1947	133	2	ND	1.25	22.3	ND
SS-MEIR-S-16-1	1940	92.3	2.01	ND	1.12	17.5	ND
SS-MEIR-S-17-1	1921	169	1.66	ND	1.43	20.6	ND
SS-MEIR-S-18-1	1947	178	1.83	ND	1.46	17.2	NS
SS-MEIR-S-19-1	1925	110	1.82	ND	1.35	18.4	ND
SS-MEIR-S-21-1	1956	106	1.57	ND	ND	14	NS
<b>Additional Analyses</b>							
SS-MEIR-S-02-1 (Sieved)	1926	44.7	1.81	ND	ND	16.5	NS
SS-MEIR-S-05-1 (Sieved)	1927	169	2.25	ND	1.26	19.6	NS
SS-MEIR-S-10-1 (Sieved)	1937	189	1.98	ND	1.62	20.1	NS
SS-MEIR-S-13-1 (Sieved)	1923	130	1.97	ND	ND	13.7	NS
SS-MEIR-S-20-1 (Dup of S-12)	1950	149	3.15	ND	1.33	18.4	NS

**Summary Statistics for Unsieved Sample Results**

	Lead (mg/kg)	Arsenic (mg/kg)	Antimony (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Hexavalent Chromium (mg/kg)
Max	178	6.53	ND	1.5	23.1	ND
Min	39.7	1.51	ND	1.05	12.8	ND
Avg	131	2.26	ND	1.28	17.8	ND
Median	134	1.94	ND	1.26	17.4	ND
95th UCL	144	2.69				

ND = Non-Detect

NS = Not Sampled

Designates above Residential Soil Screening Value

**TABLE 7**  
**Sample Results for 1-3 Inch Interval**  
**Southern Assessment Area**  
**Off-Site Soil Sampling Report**  
**Exide Vernon**



	Year House Built	Lead (mg/kg)	Arsenic (mg/kg)	Antimony (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)
<b>Residential Soil Screening Value</b>	<b>NA</b>	<b>80</b>	<b>12</b>	<b>31</b>	<b>4</b>	<b>120,000</b>
<b>Sample ID</b>						
SS-MEIR-S-01-3	1940	95.6	7.53	ND	1.24	20
SS-MEIR-S-02-3	1926	50.2	1.86	ND	ND	16
SS-MEIR-S-03-3	1979	145	1.74	ND	1.18	16.2
SS-MEIR-S-04-3	1979	119	1.77	ND	ND	17.5
SS-MEIR-S-05-3	1927	188	2.66	ND	1.44	17.5
SS-MEIR-S-06-3	1928	117	2.89	ND	1.31	20.5
SS-MEIR-S-07-3	1942	128	2.11	ND	1.05	16.4
SS-MEIR-S-08-3	1923	239	2.76	ND	1.56	26.8
SS-MEIR-S-09-3	1937	158	3.09	ND	1	18.7
SS-MEIR-S-10-3	1937	169	1.87	ND	1.64	20
SS-MEIR-S-11-3	1924	132	2.24	ND	1.14	17.3
SS-MEIR-S-12-3	1950	153	2.48	ND	1.51	23.1
SS-MEIR-S-13-3	1923	158	2.45	ND	1.21	14.9
SS-MEIR-S-14-3	1929	217	2.23	ND	2.02	23.9
SS-MEIR-S-15-3	1947	185	2.2	ND	1.41	19.9
SS-MEIR-S-16-3	1940	86	2.63	ND	1.11	19.2
SS-MEIR-S-17-3	1921	355	2.3	ND	2.04	25.9
SS-MEIR-S-18-3	1947	250	1.71	ND	1.63	19
SS-MEIR-S-19-3	1925	153	2.36	ND	1.84	22.4
SS-MEIR-S-21-3	1956	123	1.53	ND	1.03	14
<b>Additional Analyses</b>						
SS-MEIR-S-02-3 (Sieved)	1940	50	1.94	ND	ND	17
SS-MEIR-S-05-3 (Sieved)	1927	167	2.06	ND	1.28	19.6
SS-MEIR-S-10-3 (Sieved)	1937	189	1.92	ND	1.79	20.7
SS-MEIR-S-13-3 (Sieved)	1923	202	2.44	ND	1.25	20.8
SS-MEIR-S-20-3 (Dup of S-12)	1950	177	6.55	ND	1.54	24.1

**Summary Statistics for Unsieved Sample Results**

	Lead (mg/kg)	Arsenic (mg/kg)	Antimony (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)
Max	355	7.53	ND	2.04	26.8
Min	50.2	1.53	ND	1	14
Avg	161	2.52	ND	1.41	19.5
Median	153	2.27	ND	1.36	19.1
95th UCL	187	3.01			

ND = Non-Detect

Designates above Residential Soil Screening Value



**TABLE 8**  
**Sample Results for 3-6 Inch Interval**  
**Northern Assessment, Southern Assessment and Background Areas**  
**Off-Site Soil Sampling Report**  
**Exide Vernon**

Background Area			Northern Assessment Area			Southern Assessment Area		
Sample ID	Year House Built	Lead Result (mg/kg)	Sample ID	Year House Built	Lead Result (mg/kg)	Sample ID	Year House Built	Lead Result (mg/kg)
SS-BG-01-6	1980	28.8	SS-MEIR-N-01-6	1930	202	SS-MEIR-S-01-6	1940	199
SS-BG-02-6	1957	44.8	SS-MEIR-N-02-6	1920	143	SS-MEIR-S-02-6	1926	96.1
SS-BG-03-6	1954	96.4	SS-MEIR-N-03-6	1949	147	SS-MEIR-S-03-6	1979	74.7
SS-BG-04-6	1953	66.5	SS-MEIR-N-04-6	1916	340	SS-MEIR-S-04-6	1979	115
SS-BG-05-6	1949	72	SS-MEIR-N-05-6	1922	215	SS-MEIR-S-05-6	1927	135
SS-BG-06-6	1929	64.1	SS-MEIR-N-06-6	1923	178	SS-MEIR-S-06-6	1928	104
SS-BG-07-6	1966	55.3	SS-MEIR-N-07-6	1922	105	SS-MEIR-S-07-6	1942	126
SS-BG-08-6	1938	70.8	SS-MEIR-N-08-6	1921	299	SS-MEIR-S-08-6	1923	175
SS-BG-09-6	1940	62.8	SS-MEIR-N-09-6	1951	206	SS-MEIR-S-09-6	1937	180
SS-BG-10-6	1950	36.1	SS-MEIR-N-10-6	1922	277	SS-MEIR-S-10-6	1937	205
SS-BG-11-6	1945	106	SS-MEIR-N-11-6	1927	132	SS-MEIR-S-11-6	1924	136
SS-BG-12-6	1948	43.1	SS-MEIR-N-12-6	1927	172	SS-MEIR-S-12-6	1950	154
SS-BG-13-6	1950	38.1	SS-MEIR-N-13-6	1939	117	SS-MEIR-S-13-6	1923	150
SS-BG-14-6	1950	53.1	SS-MEIR-N-14-6*	1922	395	SS-MEIR-S-14-6	1929	180
SS-BG-15-6	1968	36.8	SS-MEIR-N-15-6	1991	109	SS-MEIR-S-15-6	1947	113
SS-BG-16-6	1944	114	SS-MEIR-N-16-6	1921	582	SS-MEIR-S-16-6	1940	110
SS-BG-17-6	1947	58.9	SS-MEIR-N-17-6	1954	126	SS-MEIR-S-17-6	1921	305
SS-BG-18-6	1954	37.4	SS-MEIR-N-18-6	1924	289	SS-MEIR-S-18-6	1947	280
SS-BG-19-6	1947	40.1	SS-MEIR-N-19-6	1910	191	SS-MEIR-S-19-6	1925	97.8
						SS-MEIR-S-21-6	1956	112

Min	28.8	Min	105	Min	74.7
Max	114	Max	582	Max	305
Average	59.2	Average	222	Average	152
Median	55.3	Median	191	Median	136
95th UCL	69.7	95th UCL	272	95th UCL	177

**93** Designates above Residential Soil Screening Value

\* Lead Result presented an average of the results for 3 additional aliquots (419, 385, 381 mg/kg).

Statistical Data for the Northern Assessment Area calculated using the averaged result. Initial result was 2030 mg/kg.





**TABLE 9**  
**Summary Statistics for Lead**  
**Off-Site Soil Sampling Report**  
**Exide Vernon**

	Lead (mg/kg)					
Interval	0-1 Inches		1-3 Inches		3-6 Inches	
Assessment Area	Median	95th UCL	Median	95th UCL	Median	95th UCL
Background	54.8	76.6	58.9	82.3	55.3	69.7
Northern	162	204	177	232	191	272
Southern	134	144	153	187	136	177

**TABLE 10**  
**Sieved and Unsieved Samples Soil Lead Results**  
**Off-Site Soil Sampling Report**  
**Exide Vernon**



Sample ID	Sieved (mg/kg)	Unsieved (mg/kg)
SS-BG-07-1	46.5	43.9
SS-BG-08-1	136	132
SS-BG-09-1	83.6	81.1
SS-BG-10-1	53.4	48.3
SS-BG-07-3	55.4	50.5
SS-BG-08-3	166	195
SS-BG-09-3	63.1	45.6
SS-BG-10-3	51.7	46.2
SS-MEIR-N-04-1	338	164
SS-MEIR-N-08-1	257	248
SS-MEIR-N-09-1	202	163
SS-MEIR-N-11-1	149	162
SS-MEIR-N-04-3	243	330
SS-MEIR-N-08-3	249	224
SS-MEIR-N-09-3	240	201
SS-MEIR-N-11-3	171	133
SS-MEIR-S-02-1	44.7	39.7
SS-MEIR-S-05-1	169	164
SS-MEIR-S-10-1	189	174
SS-MEIR-S-13-1	130	122
SS-MEIR-S-02-3	50	50.2
SS-MEIR-S-05-3	167	188
SS-MEIR-S-10-3	189	169
SS-MEIR-S-13-3	202	158
Average Concentration	152	139
Median Concentration	167	160



**TABLE 11**  
**0-1 Inch Interval**  
**Dioxins/Furans Results**  
**Off-Site Soil Sampling Report**  
**Exide Vernon**

<b>Sample ID</b>	<b>KM TEQ (ng/kg)</b>
<b>Residential Soil Screening Values</b>	4.5
<b>Sample ID</b>	
SS-MEIR-N-01-1	12
SS-MEIR-N-03-1	8.5
SS-MEIR-N-06-1	11
SS-MEIR-N-09-1	14
SS-MEIR-N-13-1	6.3
SS-MEIR-S-01-1	5.5
SS-MEIR-S-03-1	5.7
SS-MEIR-S-06-1	2.8
SS-MEIR-S-09-1	6.0
SS-MEIR-S-12-1	6.9
SS-BG-01-1	9.2
SS-BG-02-1	6.6
SS-BG-03-1	5.8
SS-BG-04-1	9.6
SS-BG-05-1	11

Notes:

1. KM TEQ calculated using the Kaplan Meier Technique (USEPA 2006).
2. Toxic Equivalency Factors (TEFs) for dioxins/furans obtained from World Health Organization (2005).
3. Mean derived by using KMStats Version 1.4 in EXCEL spreadsheet.

Designates above Residential Soil Screening Value



**TABLE 12**  
**Schools Sampling Results**  
**Off-Site Soil Sampling Report**  
**Exide Vernon**

Metals (mg/kg)							
	Lead (mg/kg)	Arsenic (mg/kg)	Antimony (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Total PCBs (ug/kg)	Benzo (a) Pyrene (mg/kg)
<b>Residential Soil Screening Value</b>	<b>80</b>	<b>12</b>	<b>31</b>	<b>4</b>	<b>120,000</b>	<b>220</b>	<b>0.015</b>
<b>Sample ID</b>							
SS-SCHOOL-N-01-1	70	2.56	ND	1.84	31.2	<b>310</b>	<b>0.048</b>
SS-SCHOOL-N-01-3	<b>95.4</b>	3.09	ND	2.97	43.1	<b>524</b>	<b>0.046</b>
SS-SCHOOL-N-01-6	52.1	2.43	ND	ND	11.8	ND	ND
SS-SCHOOL-S-01-1	40.8	2.77	ND	ND	15.6	ND	ND
SS-SCHOOL-S-01-3	33.2	3.31	ND	ND	19.1	ND	ND

ND = Non-Detect

  Designates above the Residential Soil Screening Value

Notes:

1. Total PCBs presented are the sum of the detected Aroclors
2. Only PAHs above the screening level are shown in this table. See Appendix C for the complete results



## **FIGURES**



# LEGEND:

- MEIR for LEAD
- MEIR for ARSENIC



## GRAPHIC SCALE



( IN FEET )  
1 inch = 2000 ft.

**ADVANCED**  
**Geoservices**

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1005 ANDREW DRIVE, SUITE A, WEST CHESTER PA, 19380  
tel 610.840.9100 fax 610.840.9199 www.advancedgeoservices.com

## NORTHERN AND SOUTHERN ASSESSMENT AREAS AND SCHOOLS LOCATION PLAN OFF-SITE SOIL SAMPLING REPORT

PROJECT ENGINEER:	BLF	SCALE:	1" ~ 2000'
CHECKED BY:	KO	PROJECT NUMBER:	2013-3007
DRAWN BY:	KEZ	DATE:	2/10/14
		FIGURE:	1



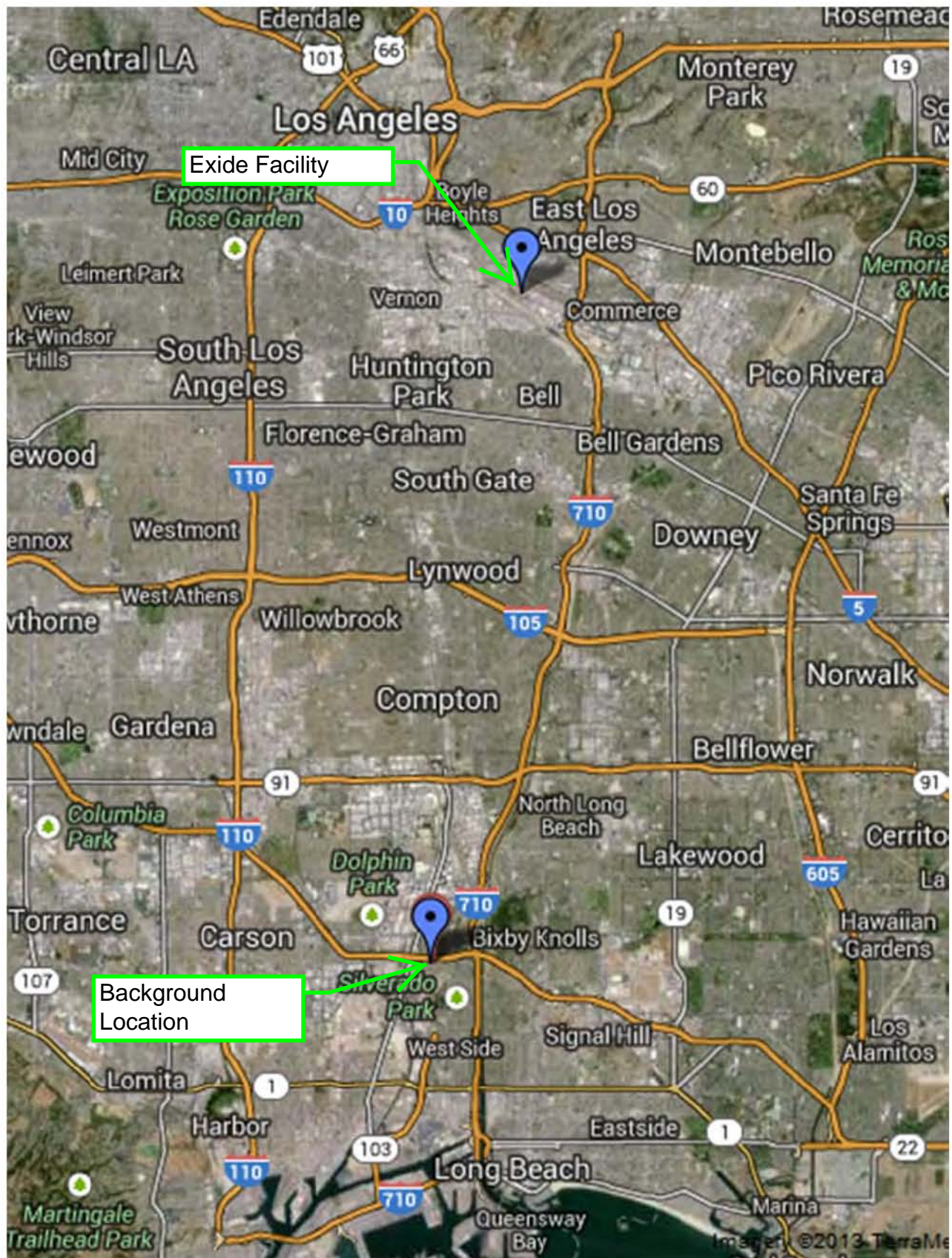
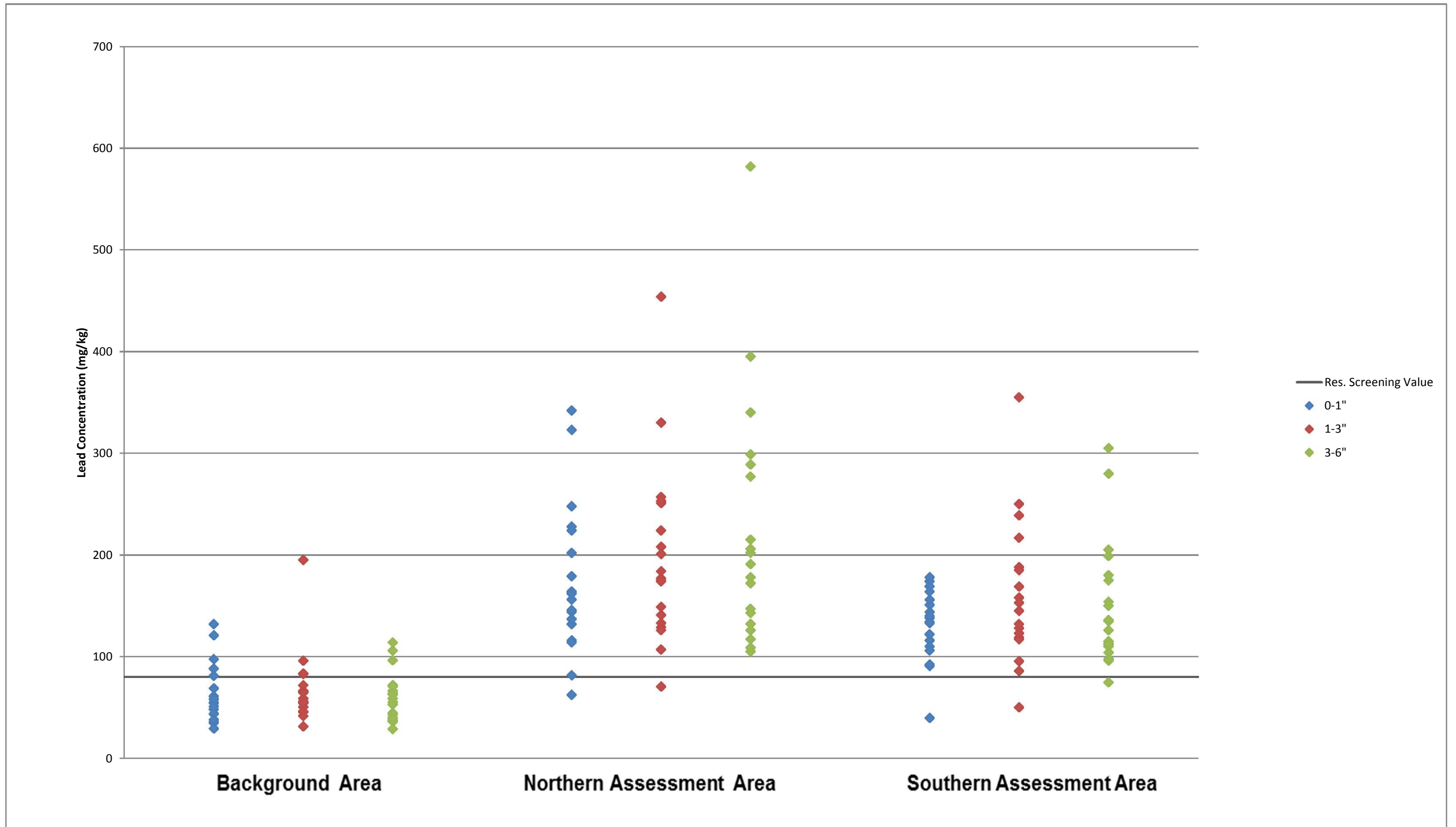


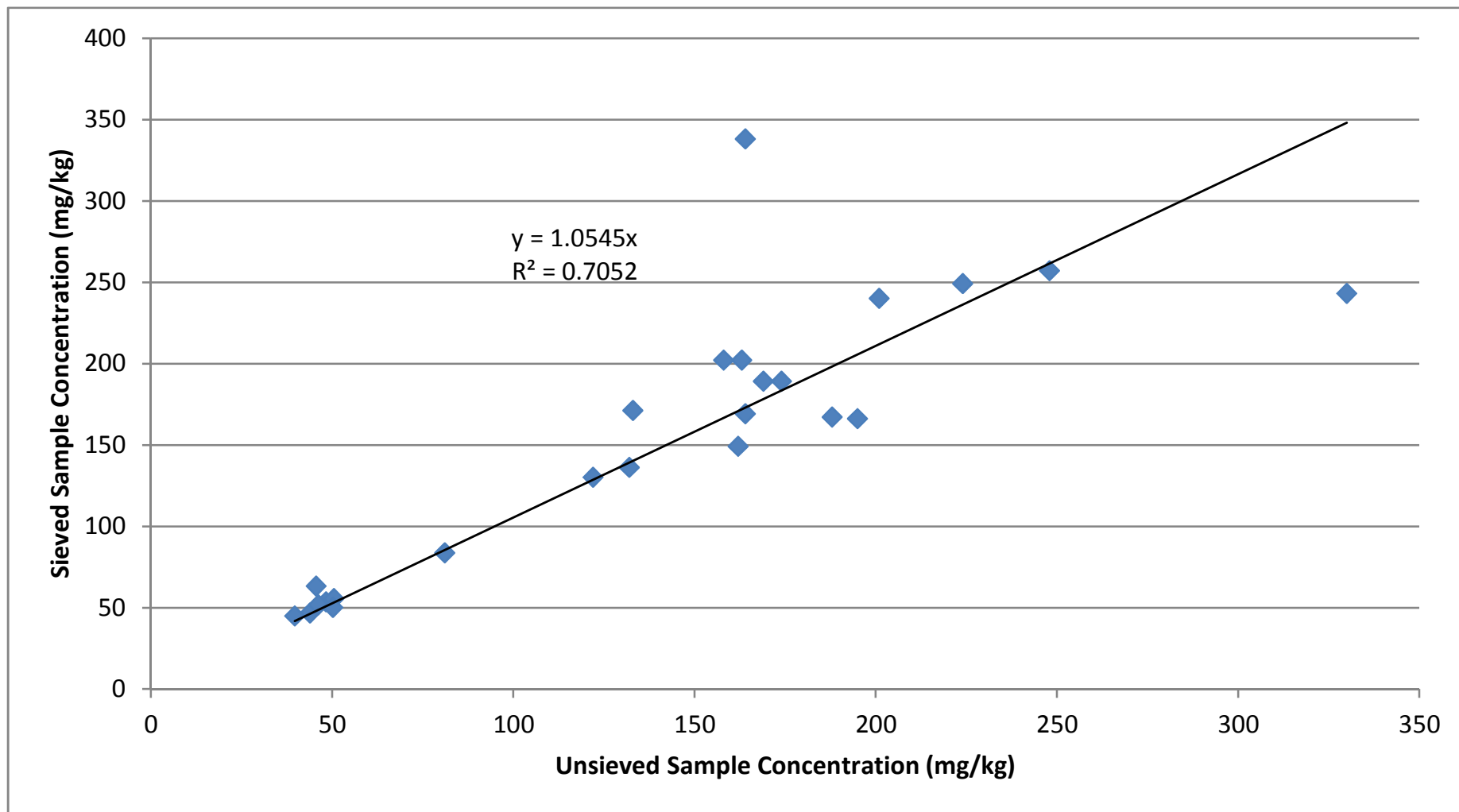
Figure 2: Location of Background Area Relative to Exide

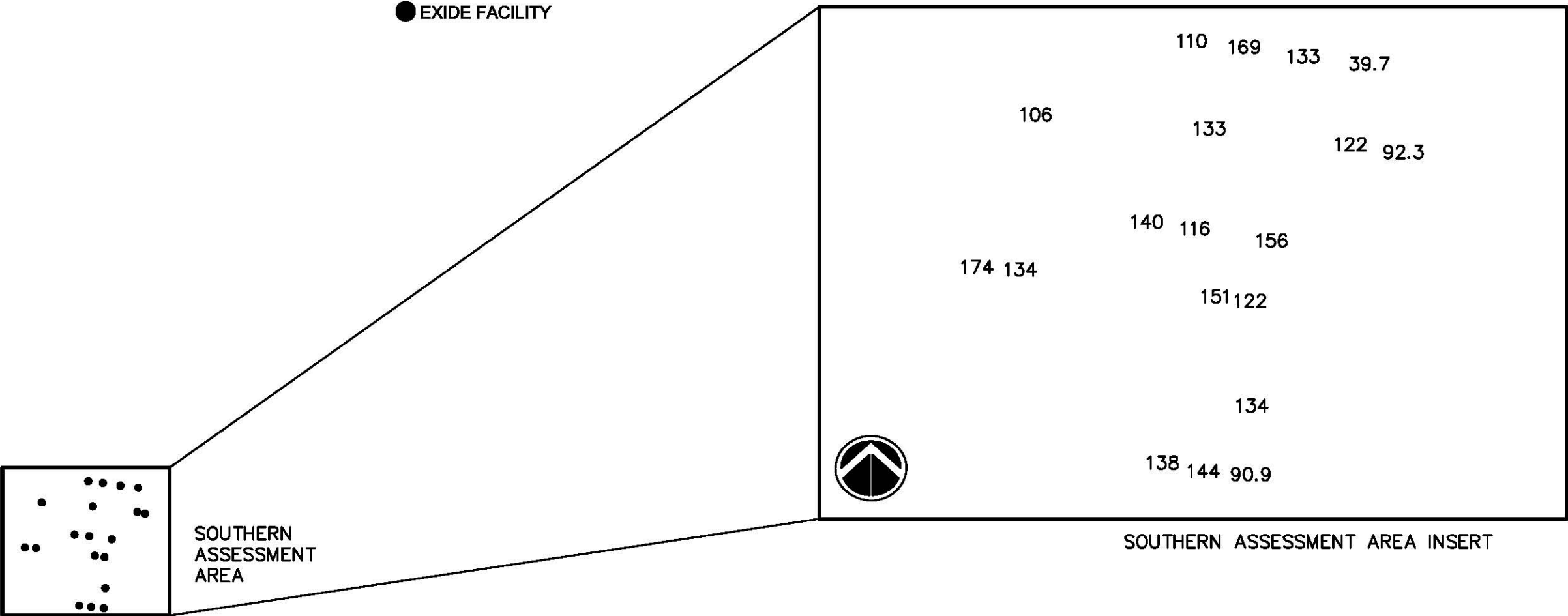


**FIGURE 3**  
**Soil Lead Data**  
**Off-Site Soil Sampling Report**  
**Exide Vernon**



**Figure 4**  
**Sieved vs Unsieved Sample Lead Concentrations**  
**Off-Site Soil Sampling Report**





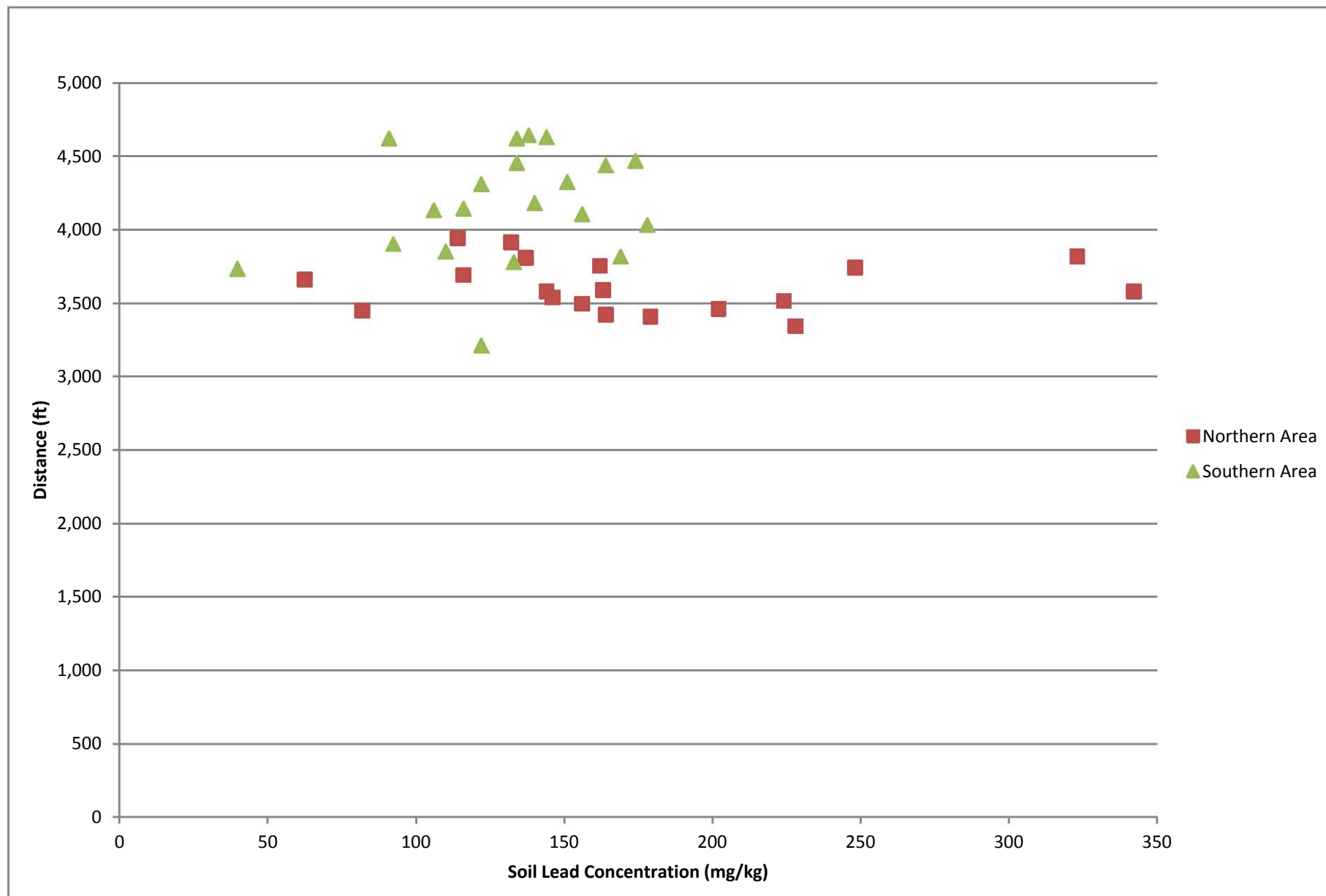
LEGEND:

● OFF-SITE RESIDENTIAL PROPERTY LOCATION

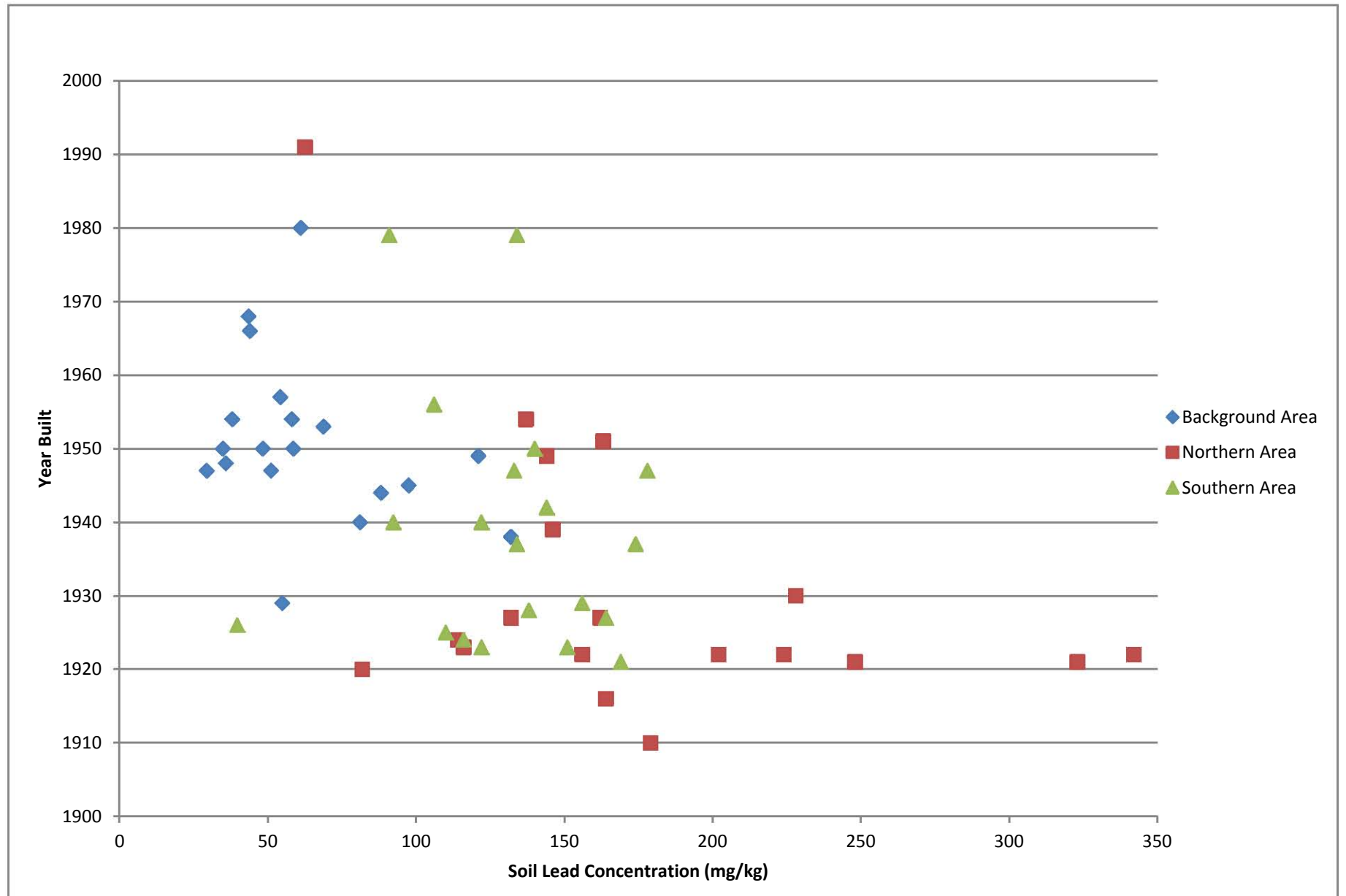
137 0-1 INCH TOTAL LEAD RESULTS (mg/kg)

Fig.	REPORT ON OFF-SITE RESIDENTIAL SOIL SAMPLING		ADVANCED Geoservices Engineering for the Environment. Planning for People. 1066 ANDREW DRIVE, SUITE A, WEST CHESTER PA, 19380 tel 610.840.9100 fax 610.840.9199 www.advancedgeoservices.com		SPATIAL RELATIONSHIP TO THE EXIDE FACILITY	
	EXIDE TECHNOLOGIES VERNON, CALIFORNIA					
5				PROJECT MANAGER: PGS SCALE: NOT TO SCALE		
				CHECKED BY: BLF PROJECT NUMBER: 2013-3007		
				DRAWN BY: KO DATE: 2/18/2014		

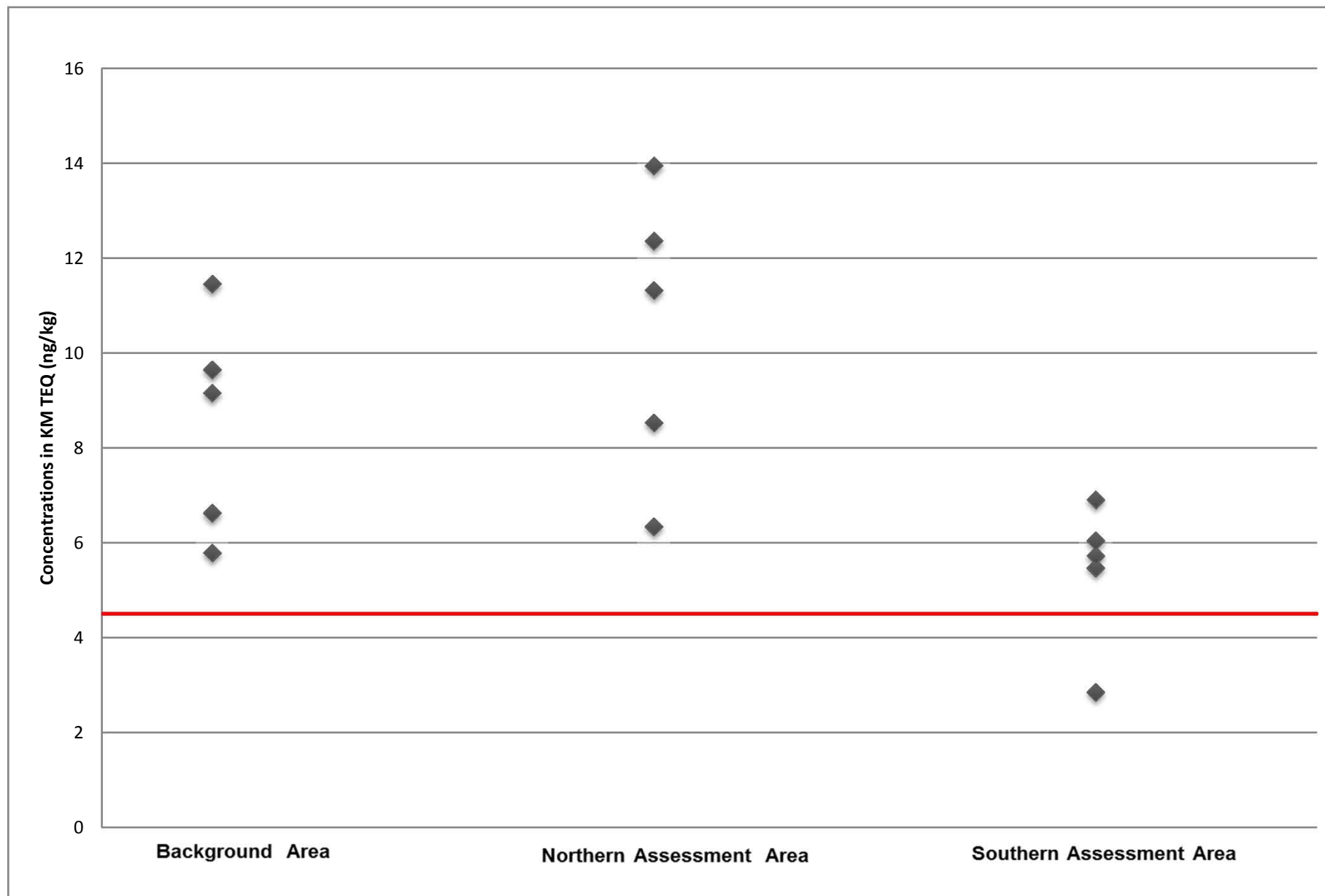
**FIGURE 6**  
**Relationship between Surface Soil Lead and Distance from Facility**  
**Off-Site Soil Sampling Report**  
**Exide Vernon**



**FIGURE 7**  
**Surface Soil Lead vs House Age**  
**Off-Site Soil Sampling Report**  
**Exide Vernon**



**FIGURE 8**  
**Dioxans/Furans/ Comparison**  
**Off-Site Soil Sampling Report**  
**Exide Vernon**





# **APPENDIX A**

## **Access Agreements**

Dear Resident:

On behalf of Exide Technologies (Exide), Advanced GeoServices and ENVIRON are performing soil sampling in your area as requested by the California Department of Toxic Substances Control (DTSC). Information on the work being performed by Exide at the direction of DTSC can be found on the attached Fact Sheet along with contact names and phone numbers should you like further information.

We request your permission to be in your yard for a few hours to take soil samples. All costs will be paid by Exide.

To take the sample, we will cut away a small circle of grass (if grass is present) and take a 6" deep sample of the soil underneath. We will then fill the hole with new soil and replace the grass as needed.

Please sign below to give your permission for us to perform the sampling. We will contact you the day before we come to let you know when we will be there.

Thank you for your cooperation.



Barbara L. Forslund  
Advanced GeoServices  
Phone: 610-840-9145  
Email: bforslund@advancedgeoservices.com

I grant permission for Exide and its contractors to sample soils on my property.

---

Signature

---

Date

---

Printed Name

---

Address

---

Contact Telephone Number

---

Best time to call

Please indicate whether you are the \_\_\_\_\_ property owner or \_\_\_\_\_ tenant.



# COMMUNITY Notice

The mission of DTSC is to protect California's people and environment from harmful effects of toxic substances through the restoration of contaminated resources, enforcement, regulation and pollution prevention.

## EXIDE BATTERY RECYCLING FACILITY FREQUENTLY ASKED QUESTIONS (FAQs)

Community members have contacted the Department of Toxic Substances Control (DTSC) over the past few weeks with questions about our enforcement activities at the Exide Technologies facility in Vernon. Earlier this month, DTSC entered into an agreement with Exide to ensure that the company's battery recycling facility in Vernon operates safely and in a manner that protects the health of the community.

The recent agreement, called a "Stipulation and Order" (S&O), goes much further and requires more of Exide than an earlier order DTSC issued in April 2013 that temporarily suspended operations at the Exide facility. The S&O agreement provides better public health protections, but it has also prompted some members of the public to ask questions about how it impacts them and the wider community.

In order to clarify the community's questions, DTSC has compiled a list of frequently asked questions (FAQs) with answers that we are including in the attached pages and posted on our Exide project document website located at:

[http://www.dtsc.ca.gov/HazardousWaste/Projects/exide\\_faq.cfm](http://www.dtsc.ca.gov/HazardousWaste/Projects/exide_faq.cfm)

We will regularly update the list of FAQs as new information comes available.

For those of you who don't already know, the Exide battery recycling facility is located at 2700 South Indiana Street, Vernon, California. The Facility operates a metal (lead) treatment and storage/recycling facility at the City of Vernon location for the recovery of lead from automotive batteries and other lead-bearing materials received from off-site sources.

For email updates, please subscribe to the Exide Elist at the following location:  
<http://www.dtsc.ca.gov/HazardousWaste/Projects/ExideSiteDescription.cfm>

The lists of FAQs are located on the following two pages:

### DTSC CONTACTS



**For questions on the technical and legal aspects of the FAQs, please contact the following DTSC staff members:**

Edward Nieto  
Team Leader  
8800 Cal Center Drive  
Sacramento, CA 95826  
(916) 255-3578  
[Edward.Nieto@dtsc.ca.gov](mailto:Edward.Nieto@dtsc.ca.gov)

Bill Veile, Project Manager  
(916) 255-3605  
[Bill.Veile@dtsc.ca.gov](mailto:Bill.Veile@dtsc.ca.gov)

**For all other questions, please contact:**

Tim Chauvel  
Public Participation Specialist  
5796 Corporate Avenue  
Cypress, CA 90630  
1-866-495-5651 or (714) 484-5487  
[Tim.Chauvel@dtsc.ca.gov](mailto:Tim.Chauvel@dtsc.ca.gov)

**For media inquiries, contact:**

Russ Edmondson  
Public Information Officer  
(916) 323-3372  
[Russ.Edmondson@dtsc.ca.gov](mailto:Russ.Edmondson@dtsc.ca.gov)



## DTSC FAQs FOR EXIDE/10.24.13

**Question (Q): What is the status of the suspension order issued in April 2013?**

**Answer (A):** DTSC issued an administrative suspension order because it was concerned about the releases of hazardous waste and air emissions into the environment. However, a Los Angeles Superior Court judge overruled DTSC in June 2013 and ordered the facility reopened until an administrative hearing could be completed. When the completed administrative hearing was postponed, the same judge ordered Exide to court on Oct. 22, 2013, to explain why he should not lift his ruling that kept the facility open. The outcome of the suspension order is presently ongoing and an update will be given at a later date.

**Q: What is the Stipulation and Order between Exide and DTSC, and what does that mean for me?**

**A:** The Stipulation and Order resolves the administrative suspension order that DTSC issued against Exide in April 2013 and resolves a legal action that Exide filed against DTSC in June 2013. The Stipulation and Order sets out conditions that Exide must meet and timelines for completing them. It requires Exide to set aside \$7.7 million in a special fund for upgrading the storm water system, reducing arsenic emissions in the air, blood lead testing in the community and sampling dust and soil around the facility. It sets a sliding scale of fines up to \$10,000 per day if the conditions are not met. It means that Exide is being closely monitored, and the facility will be made safe or DTSC will shut it down again should the facility pose an imminent and substantial danger to public health and the environment. The Stipulation and Order addresses concerns additional to those posed in the earlier suspension order. The Stipulation and Order is separate from Exide's application for a permit, which will be decided on its own merits.

**Q: What are the conditions in the Stipulation and Order?**

**A:** Exide must complete the following by specific deadlines or face potential fines:

- Replacing a deteriorating and leaking underground pipe system
- Installation of air pollution control devices to reduce arsenic emissions
- Blood-lead level testing for nearby residents
- Dust and soil sampling around the facility.

**Q: Are there provisions in the new Stipulation and Order that weren't included in the suspension order that temporarily closed the Vernon plant in April?**

**A:** Yes, the original order did not require blood testing or the soil sampling. The data from those additional measures will help DTSC determine Exide's impact on the community, and help shape actions in the future. Those additional measures will provide important information to the community.

**Q: How will Exide spend the \$7.7 million?**

**A:** Under the Stipulation and Order, Exide is replacing a storm water system with a more advanced double-wall system at a cost of more than \$4 million by year end. About \$2.5 million will be devoted to reducing air emissions through the installation of more high-efficiency filters and furnace modifications. Additional funds also will pay for the voluntary blood testing of residents of Vernon and other nearby neighborhoods, and the soil and dust sampling outside the facility.

**Q: How will blood-lead level testing and soil and dust sampling benefit the community?**

**A:** The tests will provide more information regarding potential health and environmental impacts from the Exide facility. Higher lead levels in blood could be an indicator of a health risk. Those findings, combined with data from soil and dust sampling, will help determine if the facility is a source of contamination. That information will be helpful to DTSC in determining future steps.

## **DTSC FAQs FOR EXIDE/10.24.13 CONTINUED**

**Q: Since Exide filed for bankruptcy protection, what assurances are there that the company will pay for the work?**

**A:** DTSC has ordered Exide to set aside \$7.7 million in a special account to make the required repairs and to conduct the blood, soil and dust sampling. Exide must obtain approval from the bankruptcy court to spend those funds. The bankruptcy court set a date of Nov. 5 to hear that matter. Assuming the bankruptcy court approves the expenditure, as long as the facility is operating, Exide must spend the \$7.7 million on facility upgrades specified in the Stipulation and Order.

**Q: How else is the community and environment protected while the repairs/upgrades are being completed?**

**A:** The Stipulation and Order does not prevent DTSC, South Coast Air Quality Management District or other agencies from exercising their authorities and taking additional measures.

**Q: Can DTSC require Exide to spend more than \$7.7 million?**

**A:** Yes, DTSC has enforcement tools available that can be utilized to require additional funds, including for purposes of conducting corrective action and closure of the facility.

**Q: Why doesn't the Stipulation and Order include financial compensation for community members who suffered health impacts as a result of Exide's operations?**

**A:** DTSC has no authority to require compensation for people who claim they were harmed by the facility's operations.

**Q: What else is DTSC doing in relation to Exide's Vernon facility?**

**A:** Exide operates under an interim status authorization, and DTSC is reviewing the company's application for a permit. As part of that review, DTSC could impose additional requirements that would force Exide to spend more money on upgrading the facility. In addition, Exide was required to set aside \$10.9 million in a special fund to pay for any costs associated with closing the facility should that happen.

**Q: What is the impact of Exide's bankruptcy case on DTSC's enforcement action, and what does it mean to the community?**

**A:** DTSC is a creditor. The bankruptcy case is a federal legal proceeding initiated by Exide. The bankruptcy court set the Oct. 31 deadline, but Exide is seeking to extend the date to January 31, 2104 for Exide creditors to submit proofs of claim, and in September approved Exide's motion to spend \$16 million on bonuses to Exide executives. As previously noted, the bankruptcy court must also approve the expenditure of funds set forth in the Stipulation and Order.

**If you have questions for Exide Technologies regarding the soil sampling, please contact Ed Mopas at (323) 262-1101, ext. 259.**

Estimado residente:

En nombre de Exide Technologies (Exide), Advanced GeoServices y ENVIRON están colectando muestras de suelo en su comunidad bajo la dirección del Departamento de Control de Sustancias Tóxicas (DTSC). En la ficha de Preguntas Frecuentes (FAQs) (adjuntado) usted podrá encontrar la información acerca del trabajo realizado por Exide bajo la dirección de DTSC. La ficha de Preguntas Frecuentes también contiene los nombres y números de contacto en caso usted los necesite.

Le pedimos permiso para ingresar a su patio por unas horas para tomar muestras de suelo. Todo gasto será pagado por Exide.

Durante el muestreo de suelo, cortamos un círculo pequeño del césped (si hay césped) y tomamos una muestra aproximadamente de seis pulgadas por debajo del nivel del césped. Después, rellenamos el orificio con un suelo nuevo y lo cubrimos con césped.

Por favor firme abajo, dando su permiso a que realicemos el trabajo de muestreo. Lo contactaremos un día antes de ir a su localidad.

Gracias para su cooperación.



Barbara L. Forslund  
Advanced GeoServices  
(610) 840-9145  
bforslund@advancedgeoservices.com

Yo les doy permiso a Exide y sus contratistas para que toman una muestra de suelo en mi propiedad.

---

Firma

---

Fecha

---

Nombre

---

Dirección

---

Número de Contacto

---

Hora ideal para recibir una llamada

Favor de indicar si Ud. es: \_\_\_\_\_ dueño o \_\_\_\_\_ arrendatario.

# Aviso a la COMUNIDAD

La misión del DTSC es proteger a la gente y al medio ambiente de California de los efectos dañinos de sustancias tóxicas a través de la restauración de recursos contaminados, aplicación, regulación y prevención de la contaminación.

## PREGUNTAS FRECUENTES (FAQs, por sus siglas en inglés) ACERCA DE LAS INSTALACIONES EXIDE DE RECICLAJE DE BATERÍAS

Durante las últimas semanas, miembros de la comunidad han contactado con el Departamento para Control de Sustancias Tóxicas (DTSC, por sus siglas en inglés) con preguntas acerca de nuestras actividades de aplicación en las instalaciones Exide Technologies en Vernon. A principios de este mes, el DTSC llegó a un acuerdo con Exide para asegurar que las instalaciones de reciclaje de baterías de la compañía, en Vernon, operan de manera segura y de modo que protegen la salud de la comunidad.

El reciente acuerdo llamado “Estipulación y Orden” (S&O), por sus siglas en inglés), va mucho más allá y requiere más de Exide que la orden previa del DTSC emitida en abril del 2013 que suspendió temporalmente las operaciones de las instalaciones Exide. El acuerdo S&O proporciona mejores protecciones a la salud pública y también ha motivado a algunos ciudadanos a realizar preguntas acerca de cómo esto los impacta a ellos y a la comunidad en general.

Para aclarar las preguntas de la comunidad, el DTSC ha compilado una lista de preguntas frecuentes (FAQs) con respuestas, las cuales estamos incluyendo en las páginas anexas y publicadas en el documento del proyecto Exide en nuestro sitio web, ubicado en:

[http://www.dtsc.ca.gov/HazardousWaste/Projects/exide\\_faq.cfm](http://www.dtsc.ca.gov/HazardousWaste/Projects/exide_faq.cfm)

Actualizaremos regularmente la lista de FAQs en cuanto nueva información esté disponible.

Para aquellos de ustedes que aún no lo sepan, las instalaciones de reciclaje de baterías de Exide están ubicadas en el 2700 de South Indiana Street, Vernon, California. Las Instalaciones operan una instalación de reciclaje/almacenamiento y tratamiento de metal (plomo) en el sitio de la Ciudad de Vernon para la recuperación de plomo proveniente de baterías automotrices y otros materiales que contienen plomo recibidos de fuentes fuera del sitio.

Para actualizaciones vía correo electrónico, por favor suscríbase a la Exide Elist en la siguiente ubicación:

<http://www.dtsc.ca.gov/HazardousWaste/Projects/ExideSiteDescription.cfm>

Las listas de FAQs están ubicadas en las siguientes dos páginas:

Cal/EPA



DTSC



State of California



### CONTACTOS DEL DTSC



**Para preguntas relativas a aspectos técnicos y legales de las FAQs, por favor, contacte a los siguientes miembros del personal del DTSC:**

Edward Nieto  
Jefe de Equipo  
8800 Cal Center Drive  
Sacramento, CA 95826  
(916) 255-3578  
[Edward.Nieto@dtsc.ca.gov](mailto:Edward.Nieto@dtsc.ca.gov)

Bill Veile, Gerente de Proyecto  
(916) 255-3605  
[Bill.Veile@dtsc.ca.gov](mailto:Bill.Veile@dtsc.ca.gov)

**Para todas las demás preguntas, por favor, contacte a:**

Tim Chauvel  
Especialista en Participación Pública  
5796 Corporate Avenue  
Cypress, CA 90630  
1-866-495-5651 or (714) 484-5487  
[Tim.Chauvel@dtsc.ca.gov](mailto:Tim.Chauvel@dtsc.ca.gov)

**Para consultas de los medios de comunicación, contacte a:**

Russ Edmondson  
Oficial de Información Pública  
(916) 323-3372  
[Russ.Edmondson@dtsc.ca.gov](mailto:Russ.Edmondson@dtsc.ca.gov)



## FAQs DEL DTSC PARA EXIDE/24.10.13

**Pregunta (P): ¿Cuál es el estado de la orden de suspensión emitida en abril del 2013?**

**Respuesta (R):** El DTSC emitió una orden de suspensión administrativa porque estaba preocupado acerca de las liberaciones de residuos peligrosos y las emisiones al ambiente. Sin embargo, un juez de la Corte Superior de Los Ángeles denegó al departamento en junio de 2013 y ordenó la reapertura de las instalaciones hasta que una audiencia administrativa pudiera ser llevada a cabo. Cuando la audiencia administrativa realizada fue pospuesta, el mismo juez ordenó a Exide a los tribunales el 22 de octubre de 2013, para explicar por qué no debía levantar la sentencia que mantuvo las instalaciones abiertas. El resultado de la orden de suspensión está actualmente en proceso y se publicará una actualización en una fecha posterior.

**P: ¿Qué es la Estipulación y Orden entre Exide y el DTSC y qué significa esto para mí?**

**R:** La Estipulación y Orden resuelve la orden de suspensión administrativa que el DTSC emitió en contra de Exide en abril del 2013 y resuelve una acción legal que Exide presentó en contra del DTSC en junio de 2013. La Estipulación y Orden establece condiciones que Exide debe cumplir y límites de tiempo para completarlas. Ésta requiere a Exide reservar \$7.7 millones en un fondo especial para modernizar el sistema de agua de lluvia, reducir las emisiones de arsénico en el ambiente, analizar el plomo en la sangre de los residentes en la comunidad y tomar muestras de polvo y suelo en los alrededores de las instalaciones. Ésta establece una escala variable de multas hasta por \$10,000 diarios si las condiciones no se cumplen. Esto significa que Exide está siendo rigurosamente monitoreada y las operaciones de la instalación se volverán seguras o el DTSC las clausurará nuevamente si las instalaciones representan un peligro inminente y sustancial a la salud pública y al medio ambiente. La Estipulación y Orden contempla preocupaciones adicionales a aquellas planteadas en la orden de suspensión anterior. La Estipulación y Orden es independiente de la solicitud de Exide para un permiso, el cual será decidido por sus propios méritos.

**P: ¿Cuáles son las condiciones de Estipulación y Orden?**

**R:** Exide debe terminar lo siguiente en límites de tiempo específicos o enfrentar multas potenciales:

- Reemplazar un sistema de ductos subterráneos deteriorado y con fugas.
- Instalación de aparatos de control de contaminación del aire para reducir las emisiones de arsénico.
- Análisis de niveles de plomo en la sangre para los residentes cercanos.
- Muestreo de polvo y suelo en los alrededores de las instalaciones.

**P: ¿Existen disposiciones en la nueva Estipulación y Orden que no fueron incluidas en la orden de suspensión que clausuró temporalmente la planta de Vernon en abril?**

**R:** Sí, la orden original no requería los análisis de sangre de los residentes o el muestreo del suelo. La información de esas medidas adicionales ayudará al DTSC a determinar el impacto de Exide en la comunidad y ayudará a formar acciones en el futuro. Esas medidas adicionales proporcionarán información importante para la comunidad.

**P: ¿Cómo empleará Exide los \$7.7 millones?**

**R:** Bajo la Estipulación y Orden, Exide está reemplazando un sistema de agua de lluvia por un sistema de doble pared más avanzado a un costo de más de \$ 4 millones para finales de año. Cerca de \$2.5 millones serán dedicados a reducir emisiones a través de la instalación de más filtros de alta eficiencia y modificaciones a la caldera. Fondos adicionales pagarán también por los análisis voluntarios de sangre para residentes de Vernon y otros vecindarios cercanos y por el muestreo de suelo y polvo fuera de las instalaciones.

**P: ¿Cómo beneficiarán a la comunidad los análisis de niveles de plomo en la sangre de los residentes y los muestreos de suelo y polvo?**

**R:** Los análisis proporcionarán más información en relación a los impactos potenciales para la salud y el medio ambiente de las instalaciones de Exide. Mayores niveles de plomo en la sangre pueden ser un indicador de un riesgo a la salud. Esos hallazgos, combinados con la información del muestreo de suelo y polvo, ayudarán a determinar si las instalaciones son una fuente de contaminación. Esta información será útil para el DTSC al determinar los pasos futuros.

## FAQs DEL DTSC PARA EXIDE/24.10.13 CONTINUACIÓN

**P: Dado que Exide se declaró en bancarrota, ¿qué garantías existen de que la compañía pagará por el trabajo?**

**R:** El DTSC ha ordenado a Exide reservar \$7.7 millones en una cuenta especial para realizar las reparaciones requeridas y para llevar a cabo los muestreos de sangre, suelo y polvo. Exide debe obtener aprobación de la corte de bancarrota para emplear dichos fondos. La corte de bancarrota estableció el 5 de noviembre como la fecha para atender el asunto. Asumiendo que la corte de bancarrota apruebe el gasto, mientras las instalaciones estén operando, Exide debe emplear los \$7.7 millones en las mejoras de las instalaciones especificadas en la Estipulación y Orden.

**P: ¿De qué otra manera están protegidos la comunidad y el ambiente mientras las reparaciones/modernizaciones están siendo realizadas?**

**R:** La Estipulación y Orden no impide al DTSC, al Distrito de Gestión de la Calidad el Aire de South Coast u otras agencias a ejercer su autoridad y tomar medidas adicionales.

**P: ¿Puede el DTSC requerir a Exide emplear más de \$7.7 millones?**

**R:** Sí, el DTSC cuenta con herramientas de aplicación disponibles que pueden ser utilizadas para requerir fondos adicionales, incluyendo aquellos para propósitos de realización de acciones correctivas y de clausura de las instalaciones.

**P: ¿Por qué la Estipulación y Orden no incluye compensación económica para los miembros de la comunidad que han sufrido impactos en la salud como resultado de las operaciones de Exide?**

**R:** El DTSC no tiene autoridad para requerir compensación para las personas que declaran haber sido afectadas por las operaciones de la instalación.

**P: ¿Qué más está llevando a cabo el DTSC en relación con las instalaciones Exide de Vernon?**

**R:** Exide opera en virtud de una autorización de carácter provisional y el DTSC está revisando la solicitud de permiso de la compañía. Como parte de esta revisión, el DTSC podría imponer requerimientos adicionales que pueden forzar a Exide a invertir más dinero en la modernización de las instalaciones. Adicionalmente, Exide ha sido requerida a reservar \$10.9 millones en un fondo especial para pagar los costos asociados con el cierre de la instalación, si esto ocurriera.

**Q: ¿Cuál es el impacto del caso de bancarrota de Exide en la acción de ejecución del DTSC y qué implica esto para la comunidad?**

**A:** El DTSC es un acreedor. El caso de bancarrota es un procedimiento legal federal iniciado por Exide. La corte de bancarrota estableció el 31 de octubre como fecha límite para que los acreedores de Exide presenten pruebas de reclamación y en septiembre aprobó la petición de Exide para gastar \$16 millones en bonos para sus ejecutivos. Como se señaló anteriormente, la corte de bancarrota también debe aprobar el gasto de los fondos establecidos en la Estipulación y Orden.

If you have questions for Exide Technologies regarding the soil sampling, please contact Ed Mopas at (323) 262-1101, ext. 259.



## **APPENDIX B**

### **Property Sketches**

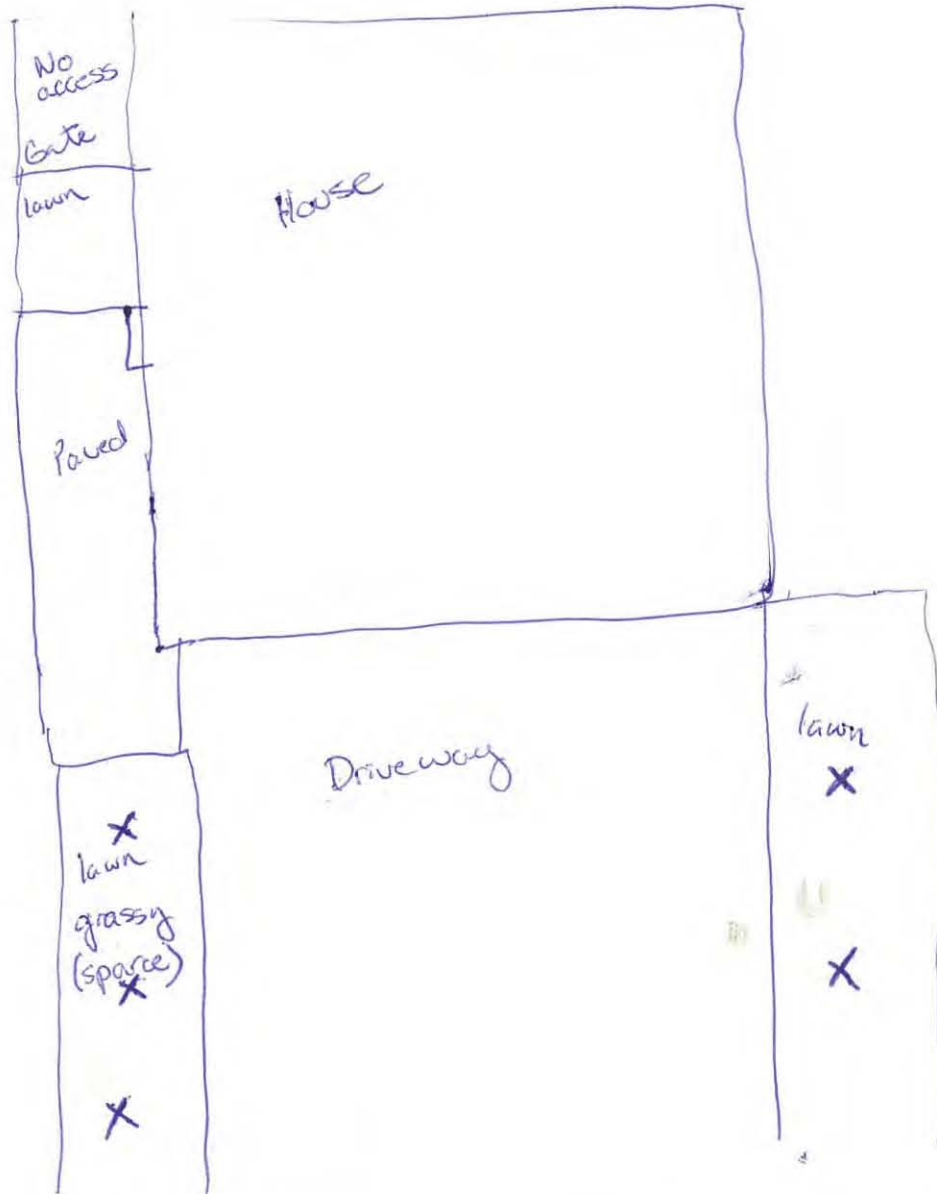


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- ADDITIONAL POTENTIAL CONTAMINATION SOURCES

OBTAIN PHOTO-DOCUMENTATION

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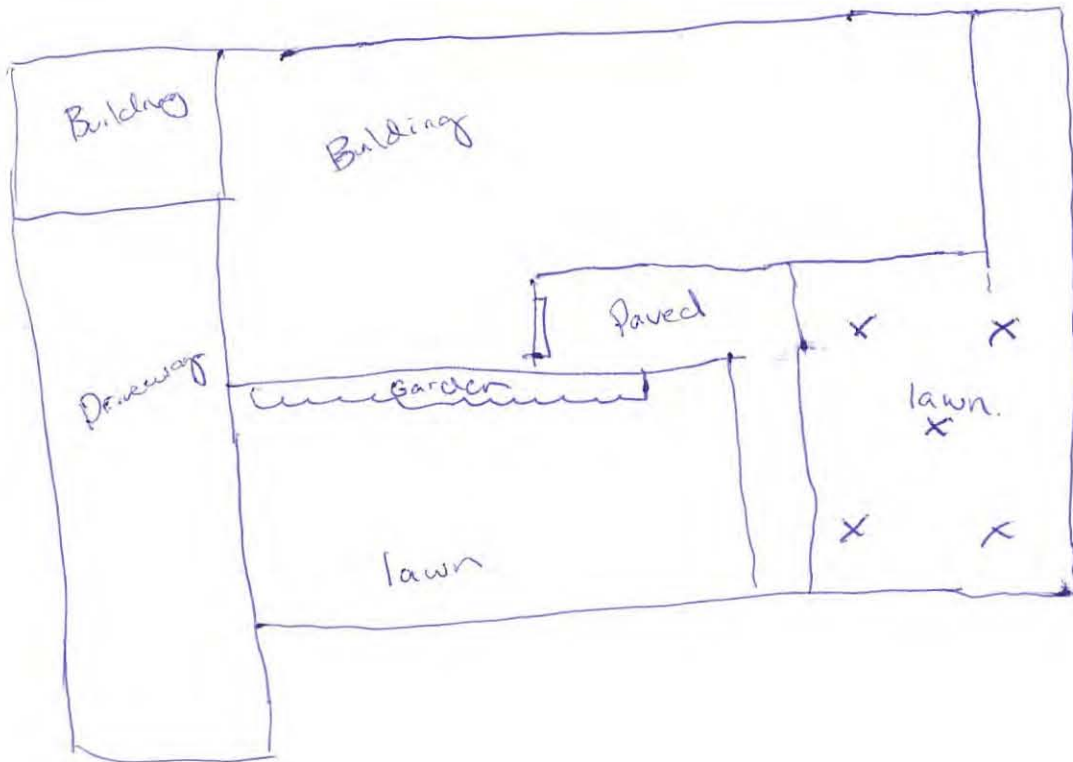
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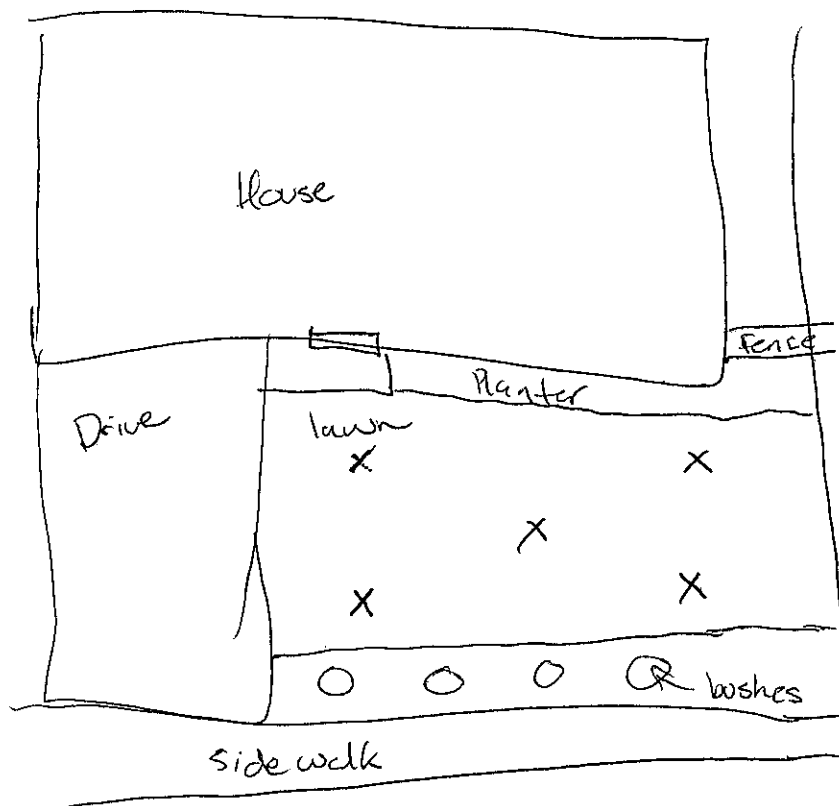
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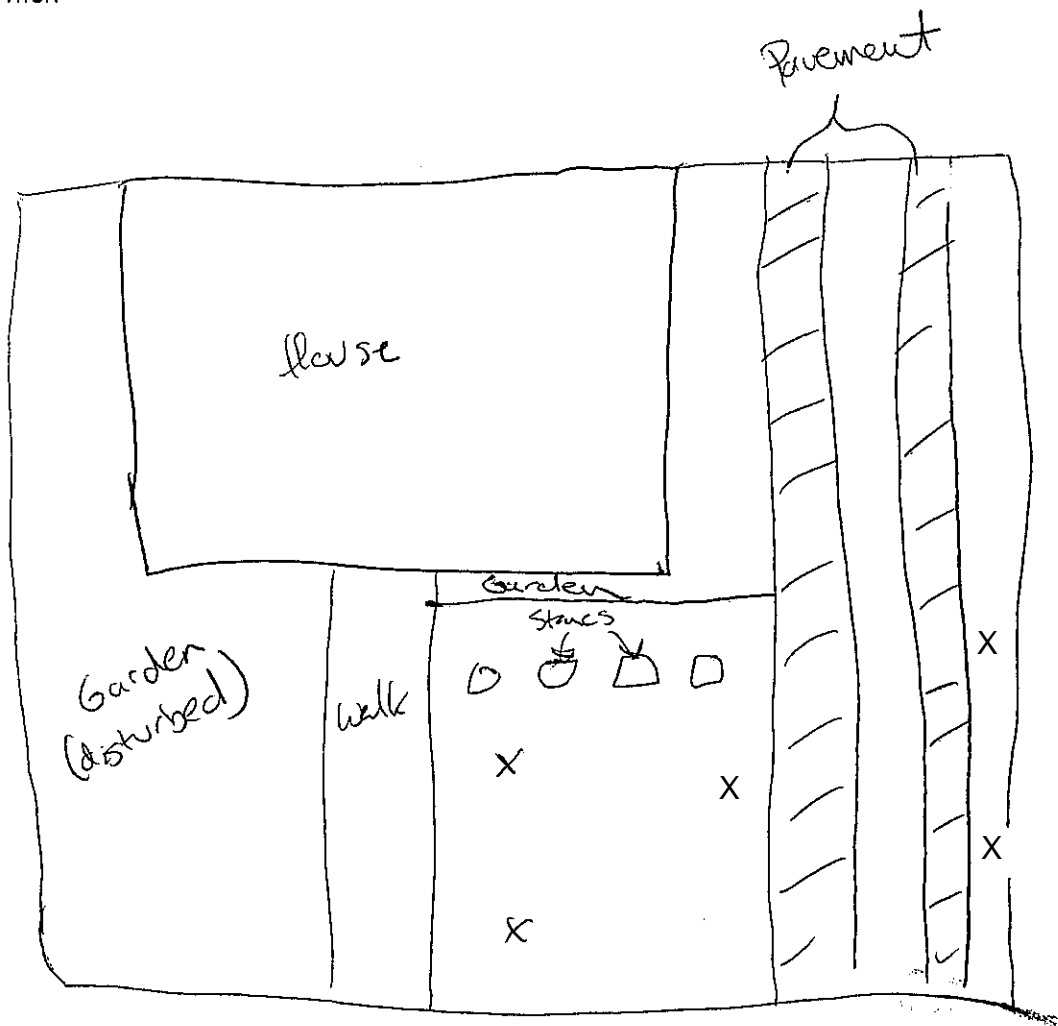
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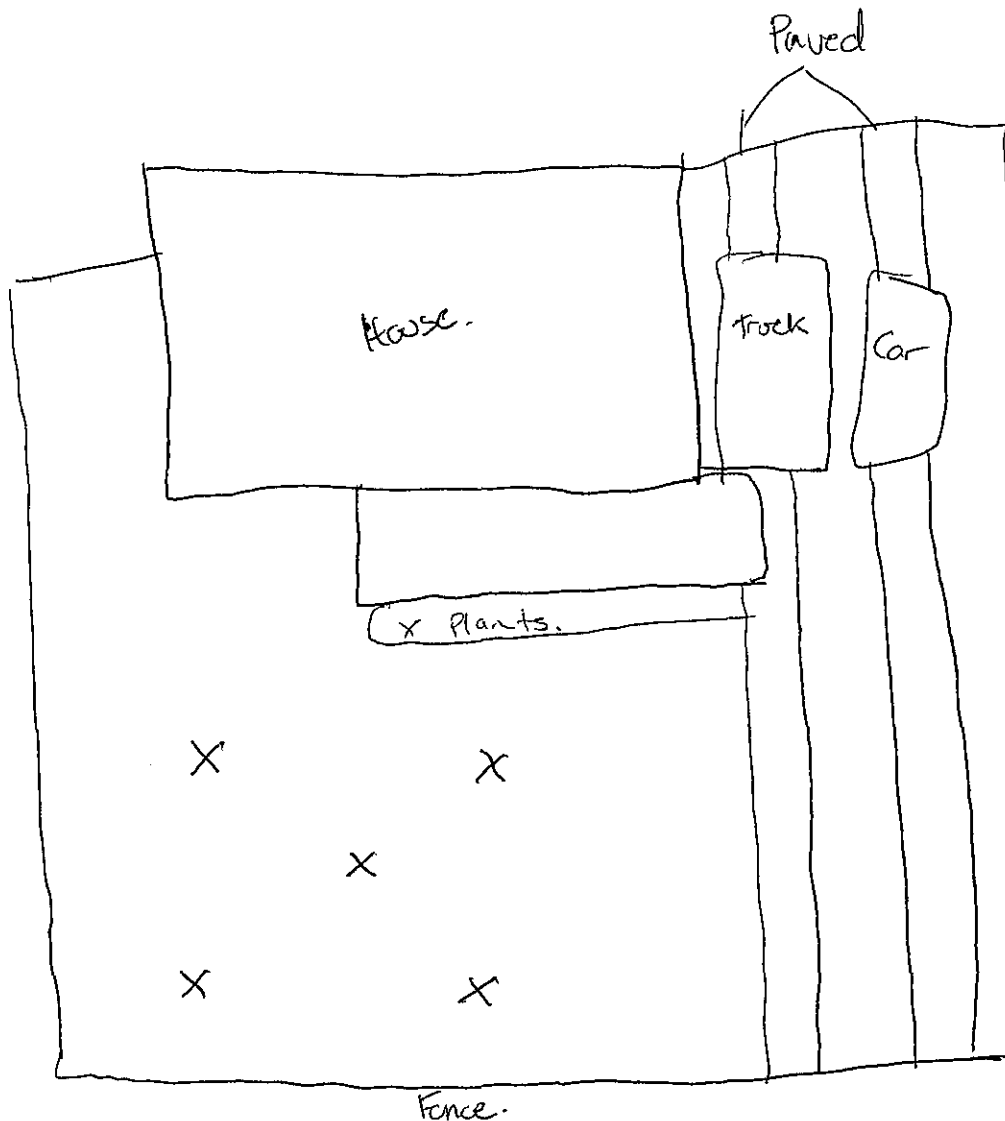
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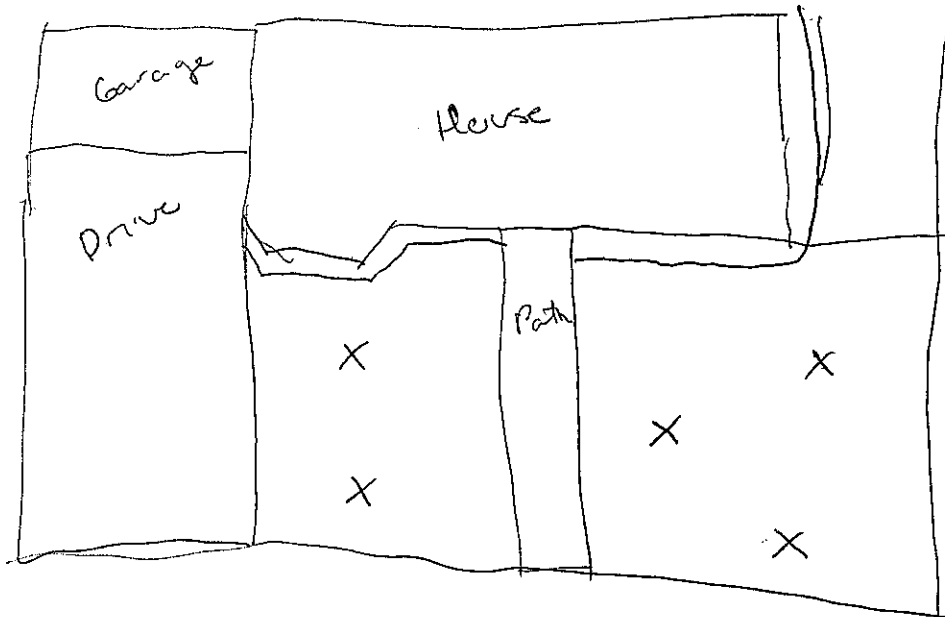
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(sieve)



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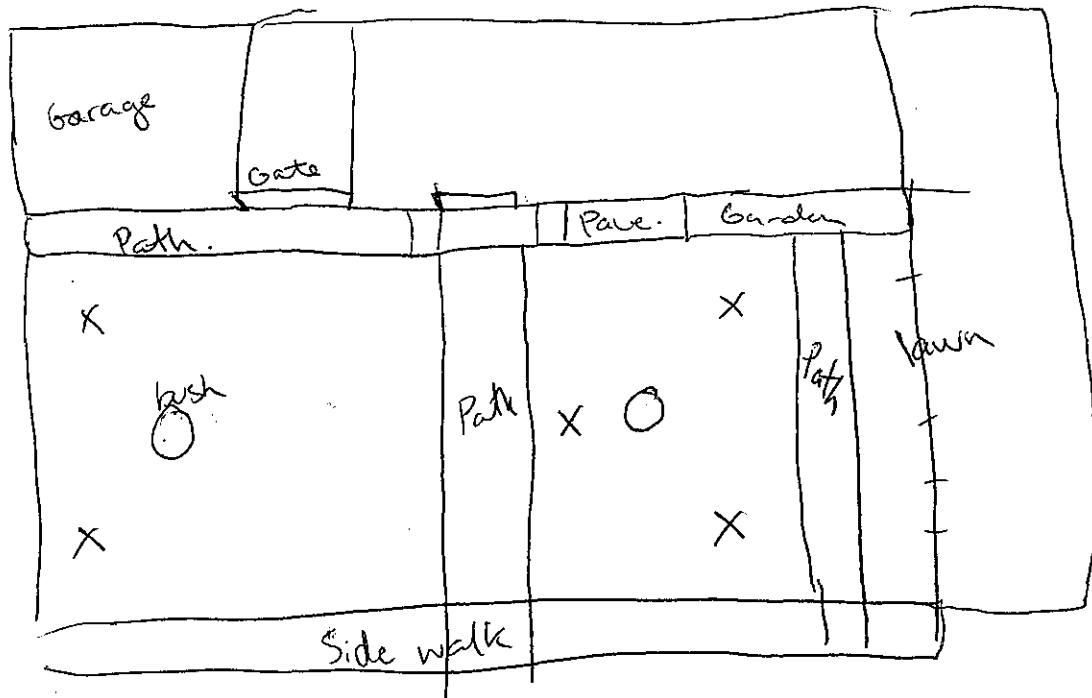
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SS-BG-08  
(sieve)  
+ Dup.



Parts of lawn contained green mesh indicating  
sod had been laid over yard at some time  
in the past



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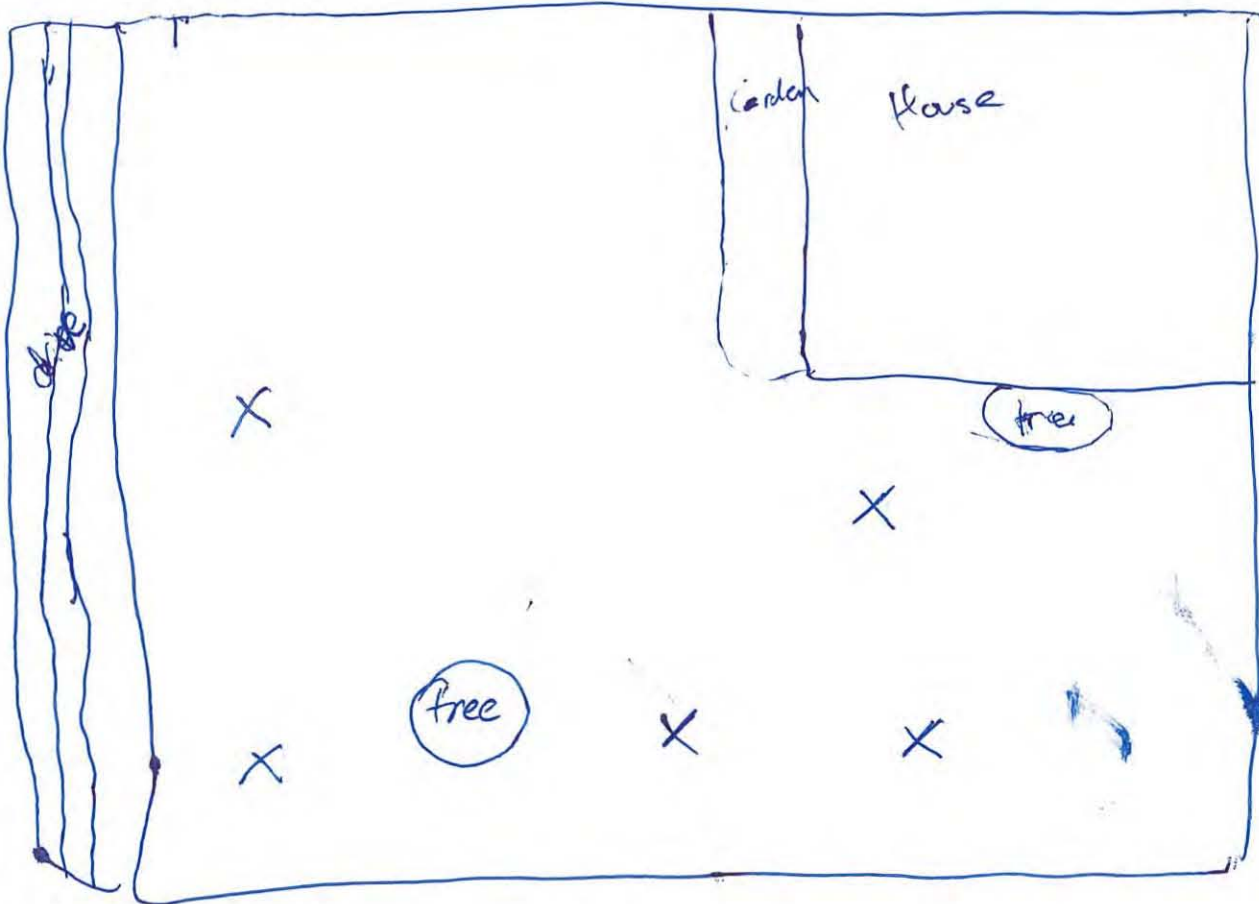
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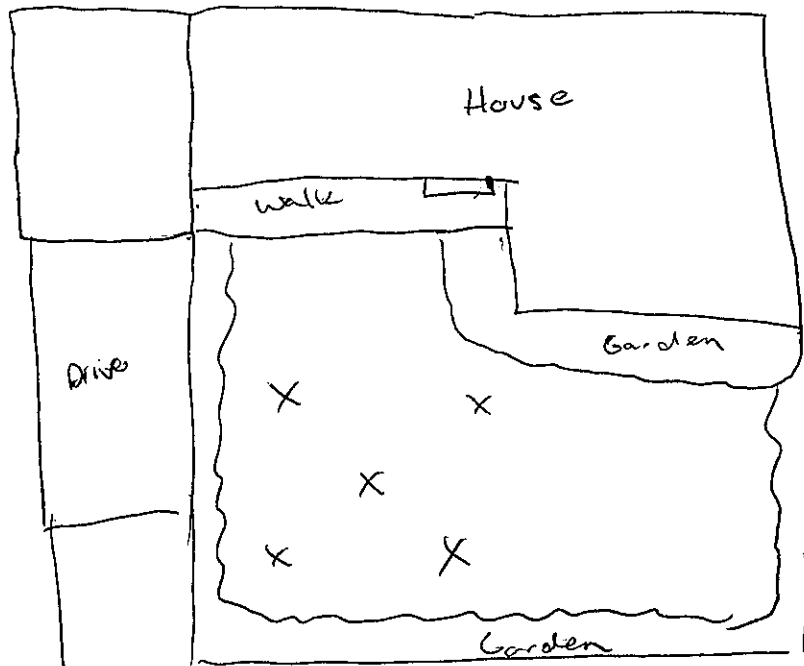
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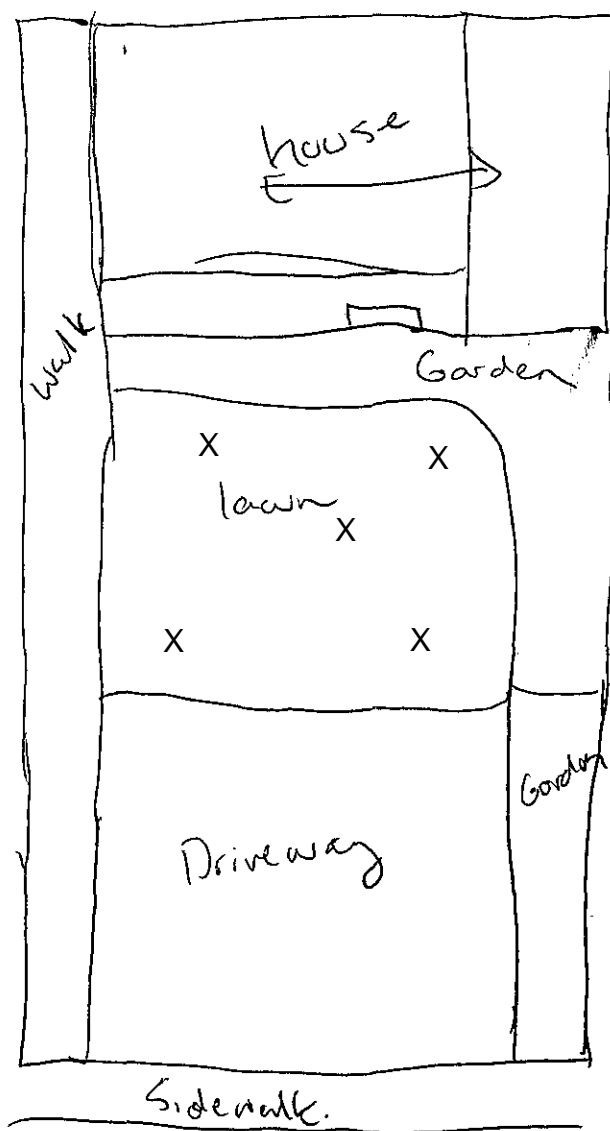
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CHECKED BY:		PROJECT NUMBER:	2013-3007
DRAWN BY:	KO	DATE:	FIGURE: SK-1

INCLUDE THE FOLLOWING ON SKETCH AS APPLICABLE:

- SAMPLE LOCATIONS
- PAINTED STRUCTURES
- PAVED/PATIO AREAS
- DRIVEWAY/PARKING AREAS
- GRASSY AREAS
- BARE SOIL AREAS
- PLAY AREAS
- STREET/SIDEWALK LOCATION
- RECENTLY DISTURBED AREAS
- STORMWATER DRAINAGE AREAS
- ADDITIONAL POTENTIAL CONTAMINATION SOURCES

OBTAIN PHOTO-DOCUMENTATION

SS-BG-11



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EXIDE TECHNOLOGIES  
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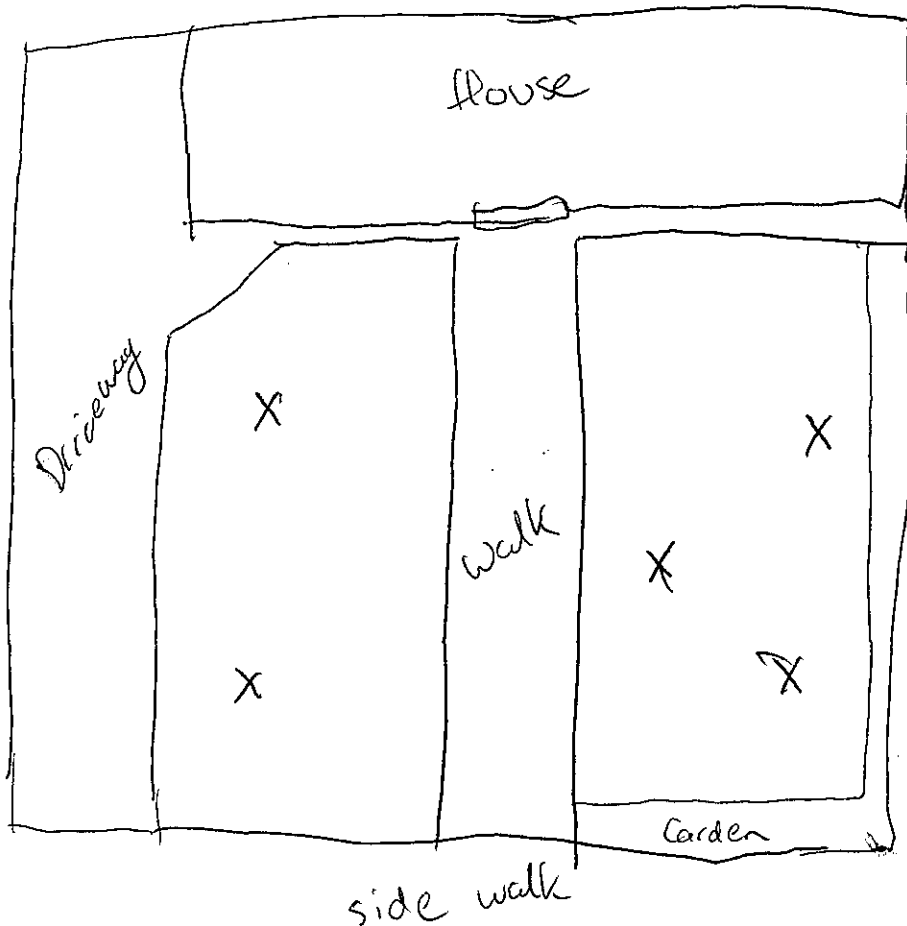
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CHECKED BY:		PROJECT NUMBER:	2013-3007
DRAWN BY:	KO	DATE:	FIGURE: SK-1

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PROJECT ENGINEER:	P.G.S.	SCALE:	NTS
CHECKED BY:		PROJECT NUMBER:	2013-3007
DRAWN BY:	KO	DATE:	FIGURE: SK-1

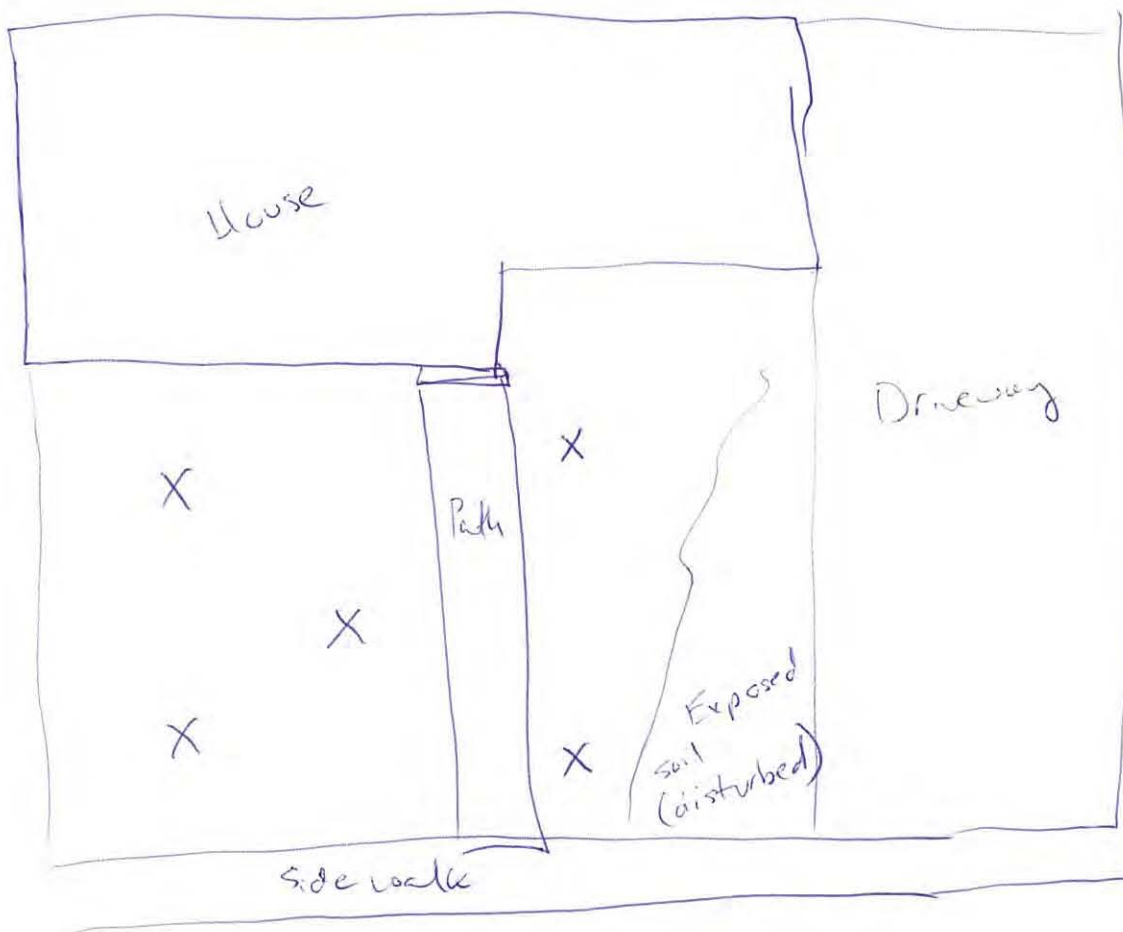
INCLUDE THE FOLLOWING ON SKETCH AS APPLICABLE:

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- ADDITIONAL POTENTIAL CONTAMINATION SOURCES

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- green mesh indicating  
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sod.



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EXIDE TECHNOLOGIES  
VERNON, CALIFORNIA

PROJECT ENGINEER: P.G.S. SCALE: NTS

CHECKED BY: PROJECT NUMBER: 2013-3007

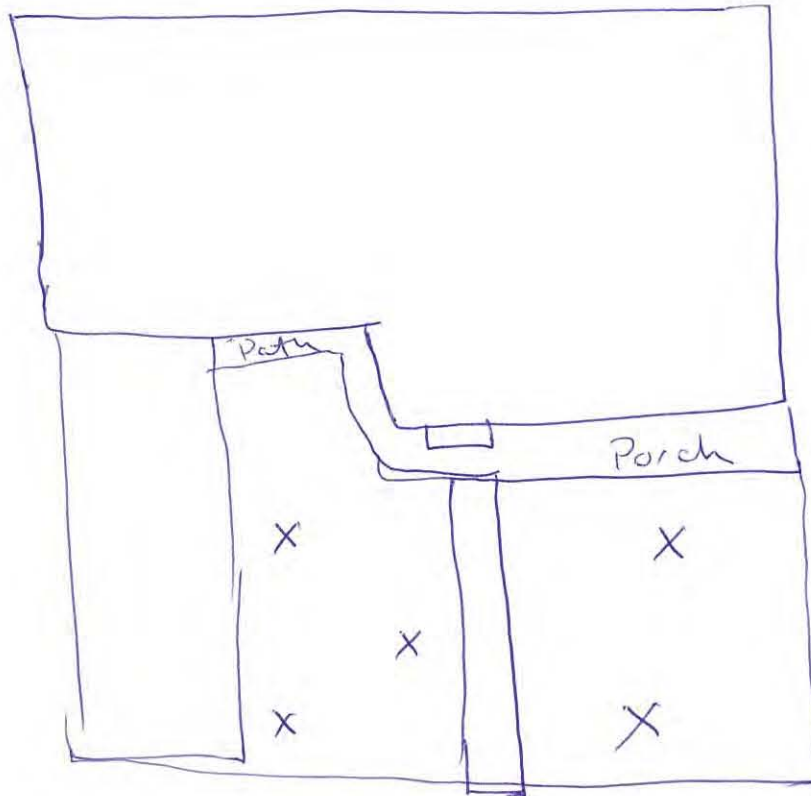
DRAWN BY: KO DATE: FIGURE: SK-1

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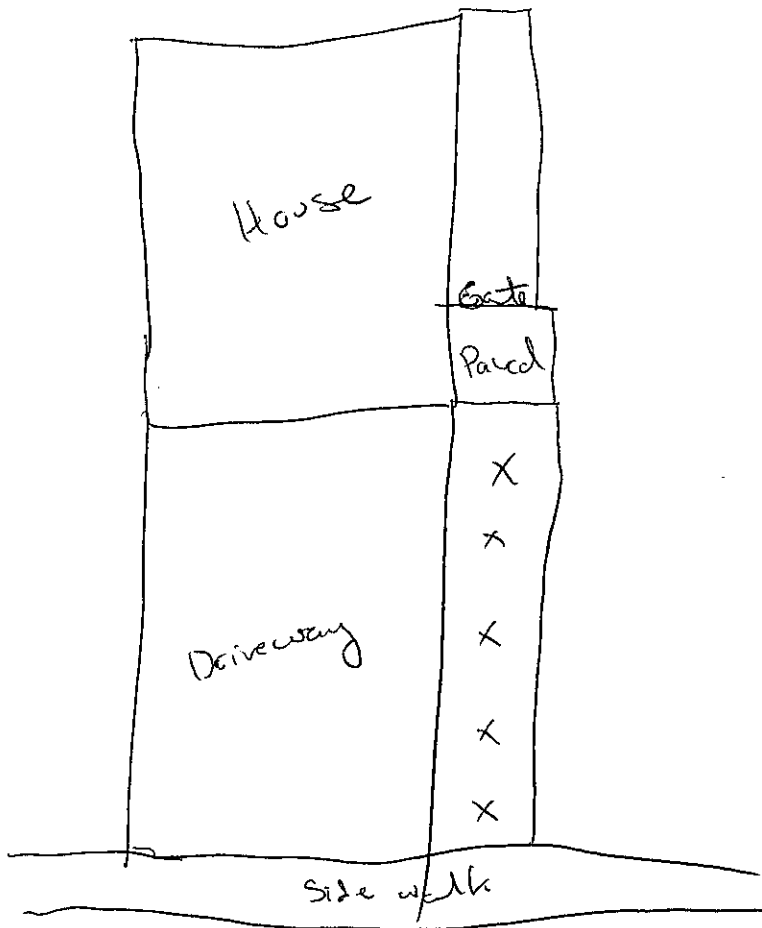
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CHECKED BY:		PROJECT NUMBER:	2013-3007
DRAWN BY:	KO	DATE:	FIGURE: SK-1

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PROJECT ENGINEER: P.G.S. SCALE: NTS

CHECKED BY: PROJECT NUMBER: 2013-3007

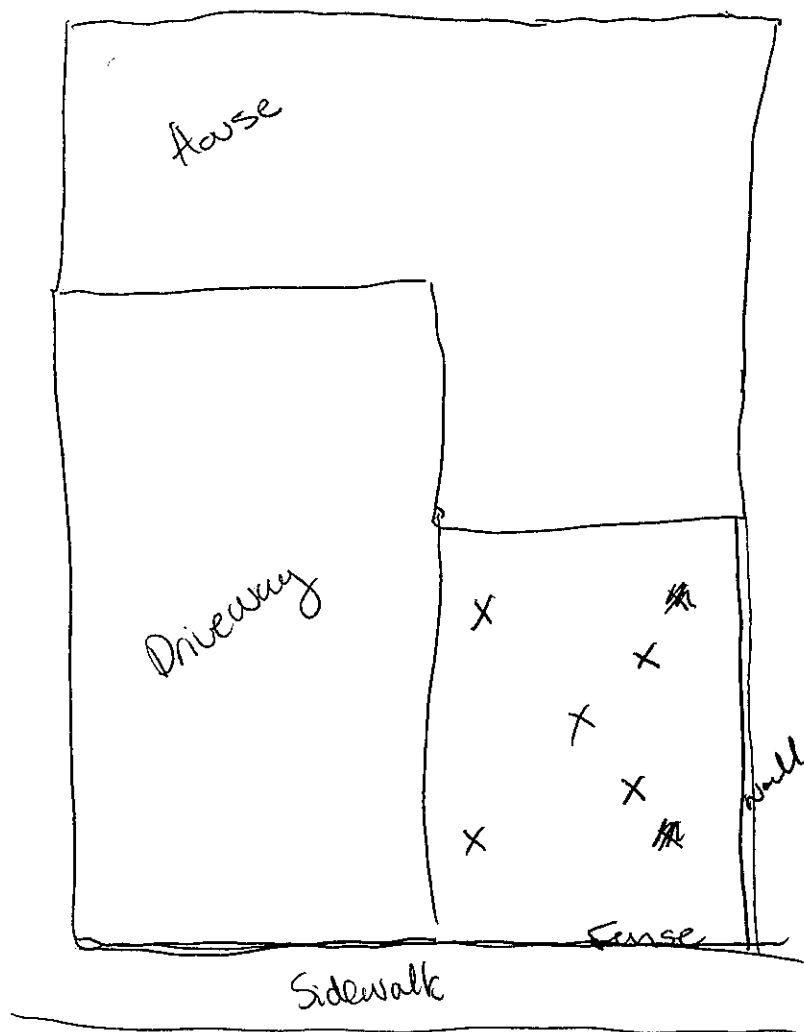
DRAWN BY: KO DATE: FIGURE: SK-1

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PROJECT ENGINEER: P.G.S. SCALE: NTS

CHECKED BY: PROJECT NUMBER: 2013-3007

DRAWN BY: KO DATE: FIGURE: SK-1

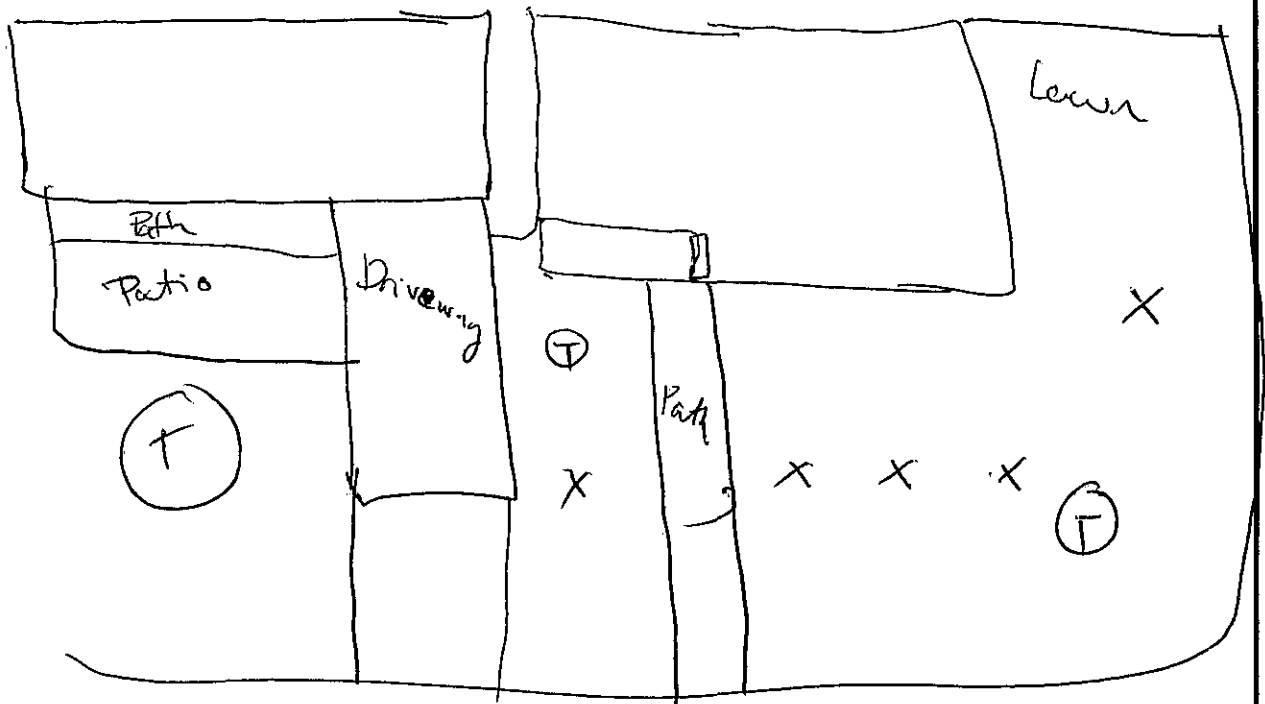


INCLUDE THE FOLLOWING ON SKETCH AS APPLICABLE:

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SS-B6-17-A



Not to scale  
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should be wider



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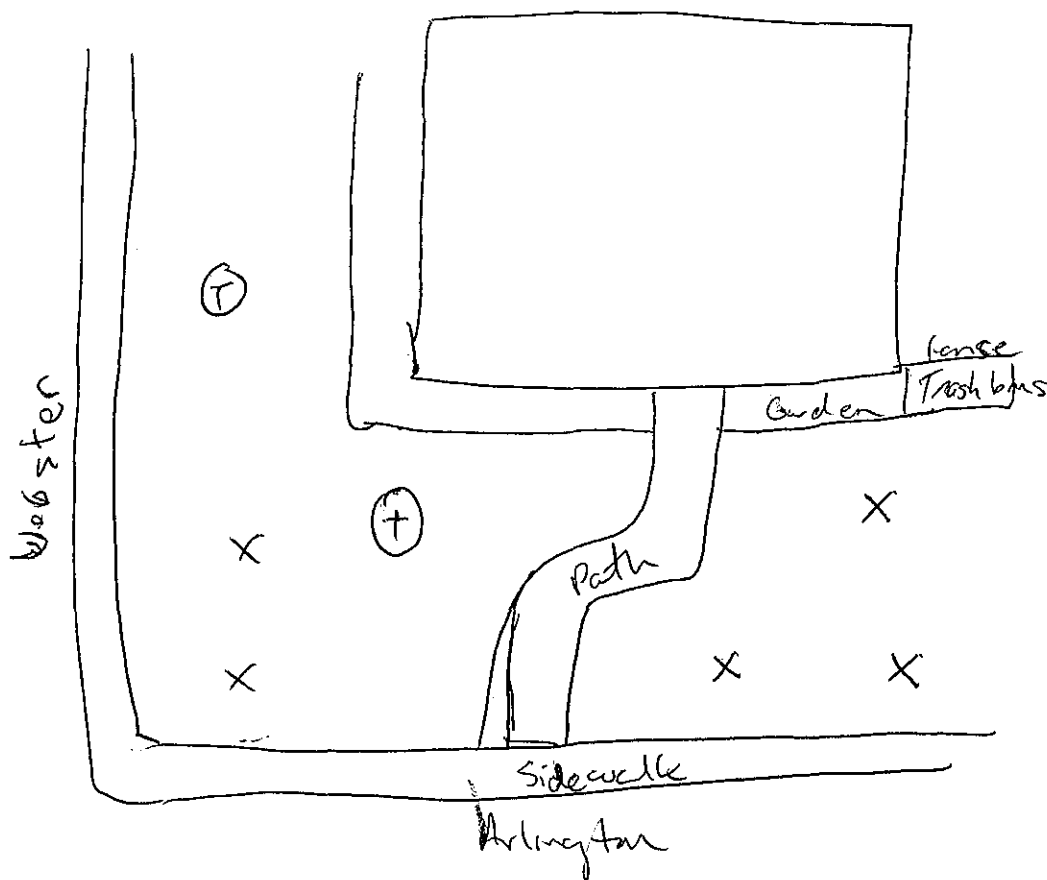
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CHECKED BY:		PROJECT NUMBER:	2013-3007
DRAWN BY:	KO	DATE:	FIGURE: SK-1

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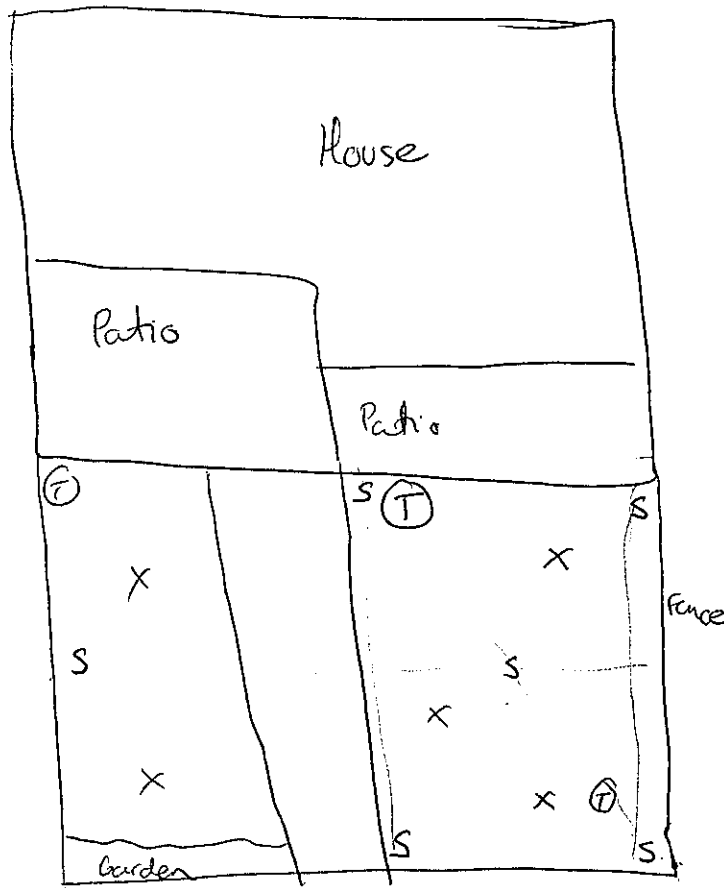
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CHECKED BY:		PROJECT NUMBER:	2013-3007
DRAWN BY:	KO	DATE:	FIGURE: SK-1

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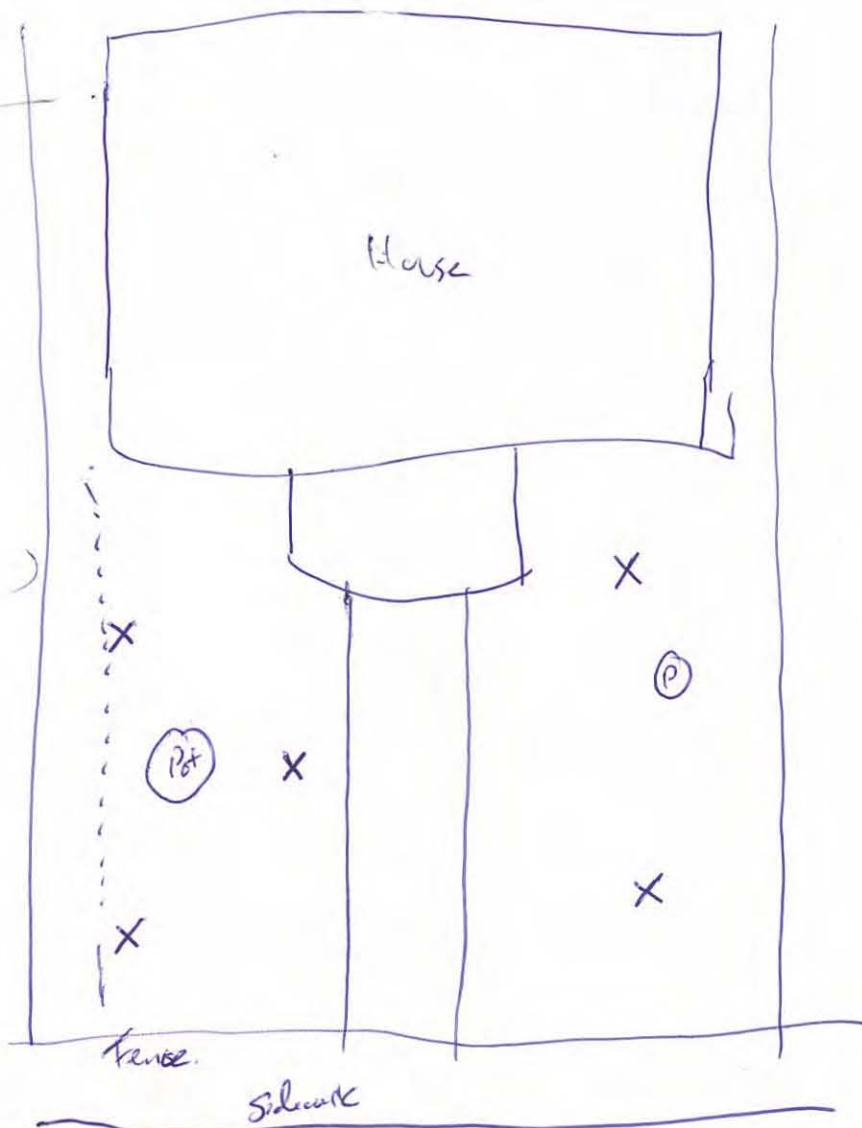
PROJECT ENGINEER:	P.G.S.	SCALE:	NTS
CHECKED BY:		PROJECT NUMBER:	2013-3007
DRAWN BY:	KO	DATE:	FIGURE: SK-1

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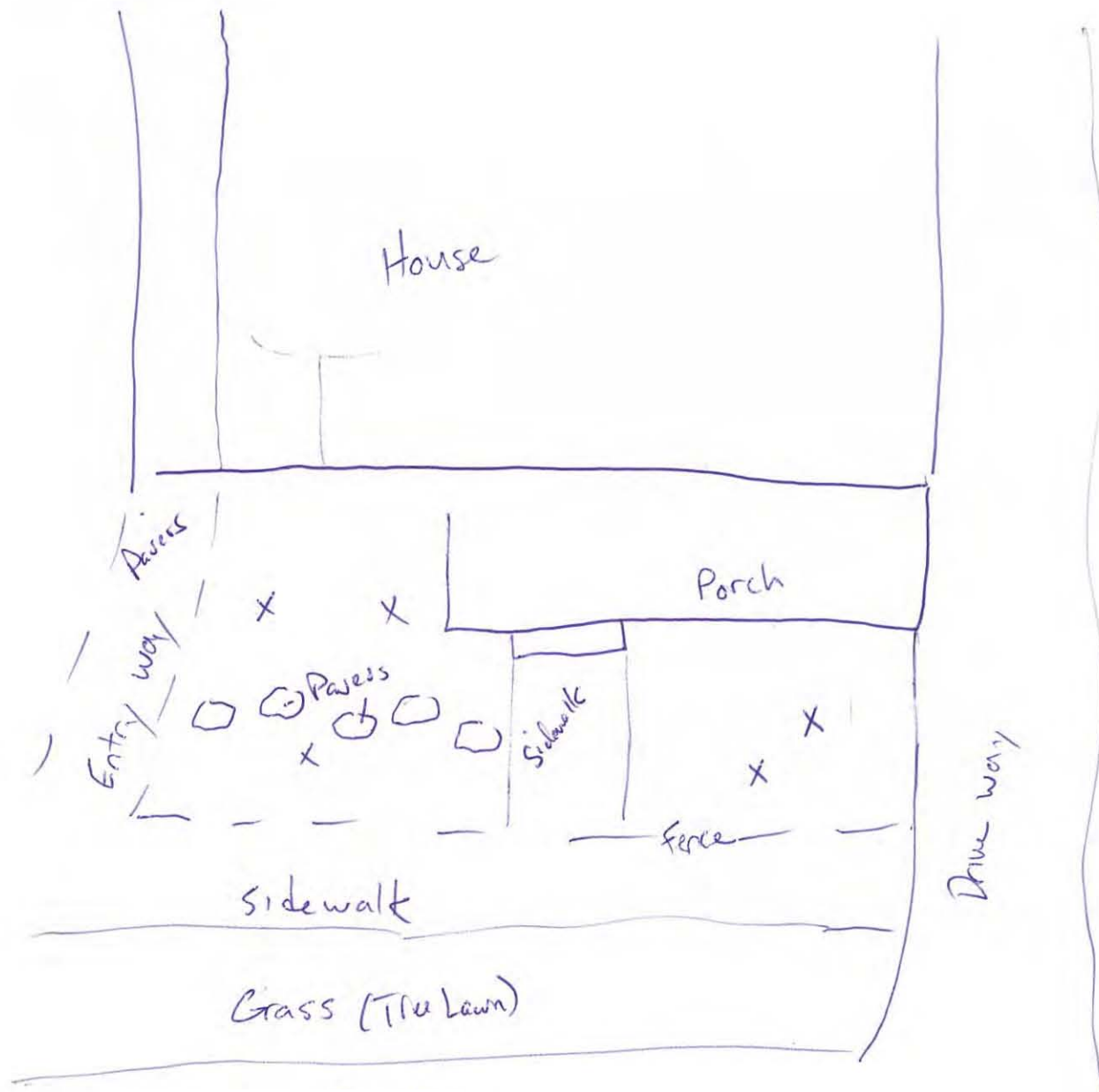
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CHECKED BY:		PROJECT NUMBER:	2013-3007
DRAWN BY:	KO	DATE:	FIGURE: SK-1

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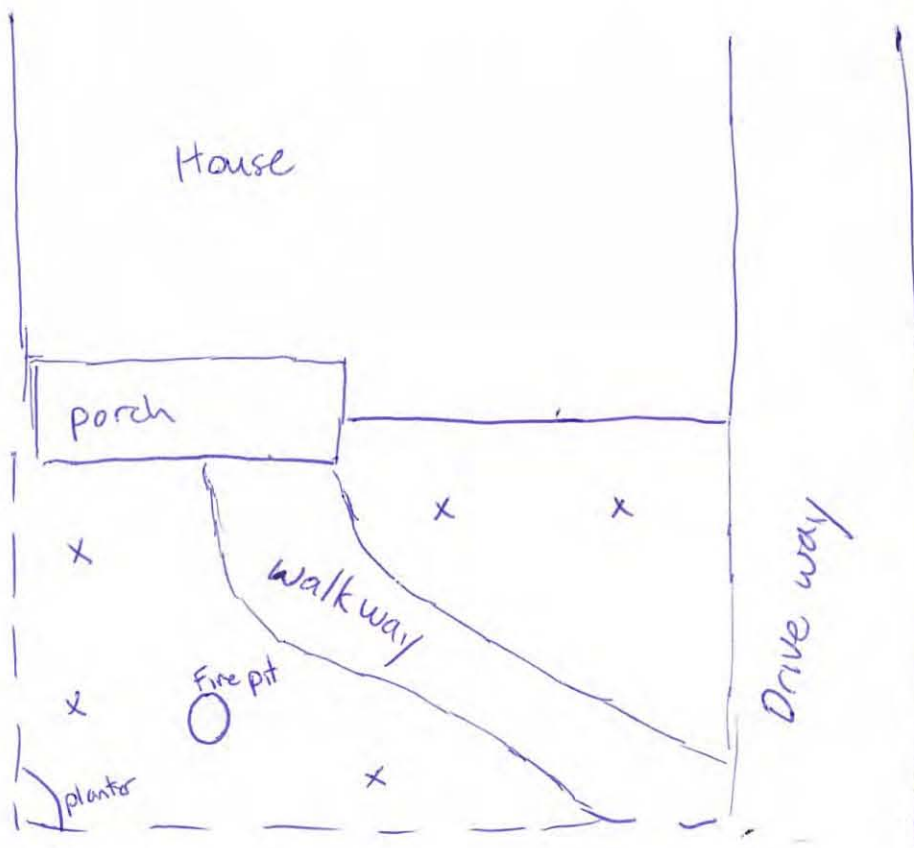
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CHECKED BY:		PROJECT NUMBER:	2013-3007
DRAWN BY:	KO	DATE:	FIGURE: SK-1

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VERNON, CALIFORNIA

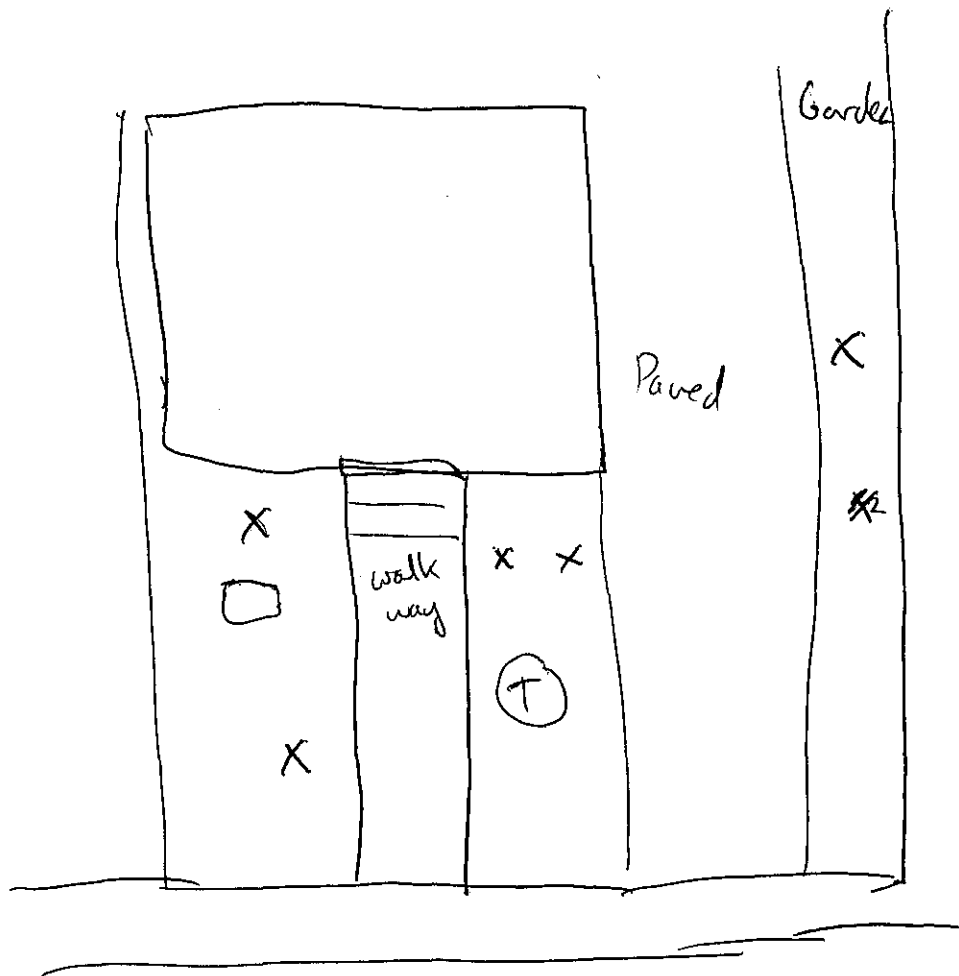
PROJECT ENGINEER:	P.G.S.	SCALE:	NTS
CHECKED BY:		PROJECT NUMBER:	2013-3007
DRAWN BY:	KO	DATE:	FIGURE: SK-1

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PROJECT ENGINEER: P.G.S. SCALE: NTS

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DRAWN BY: KO DATE: FIGURE: SK-1

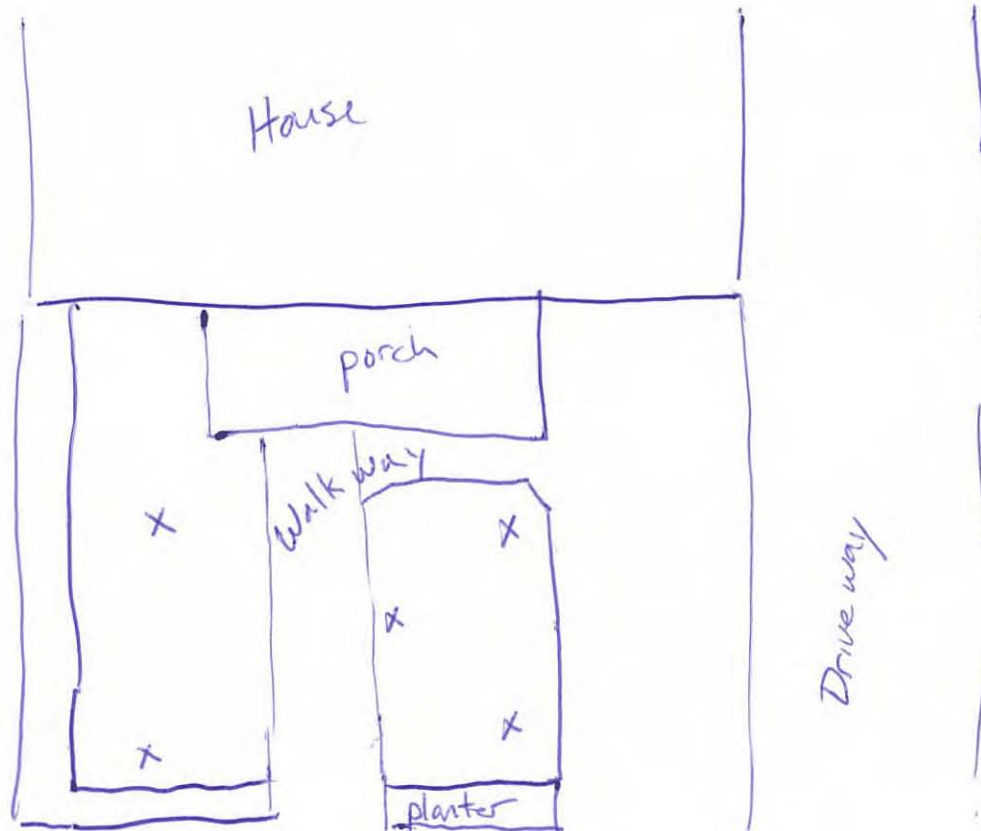


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CHECKED BY:		PROJECT NUMBER:	2013-3007
DRAWN BY:	KO	DATE:	FIGURE: SK-1

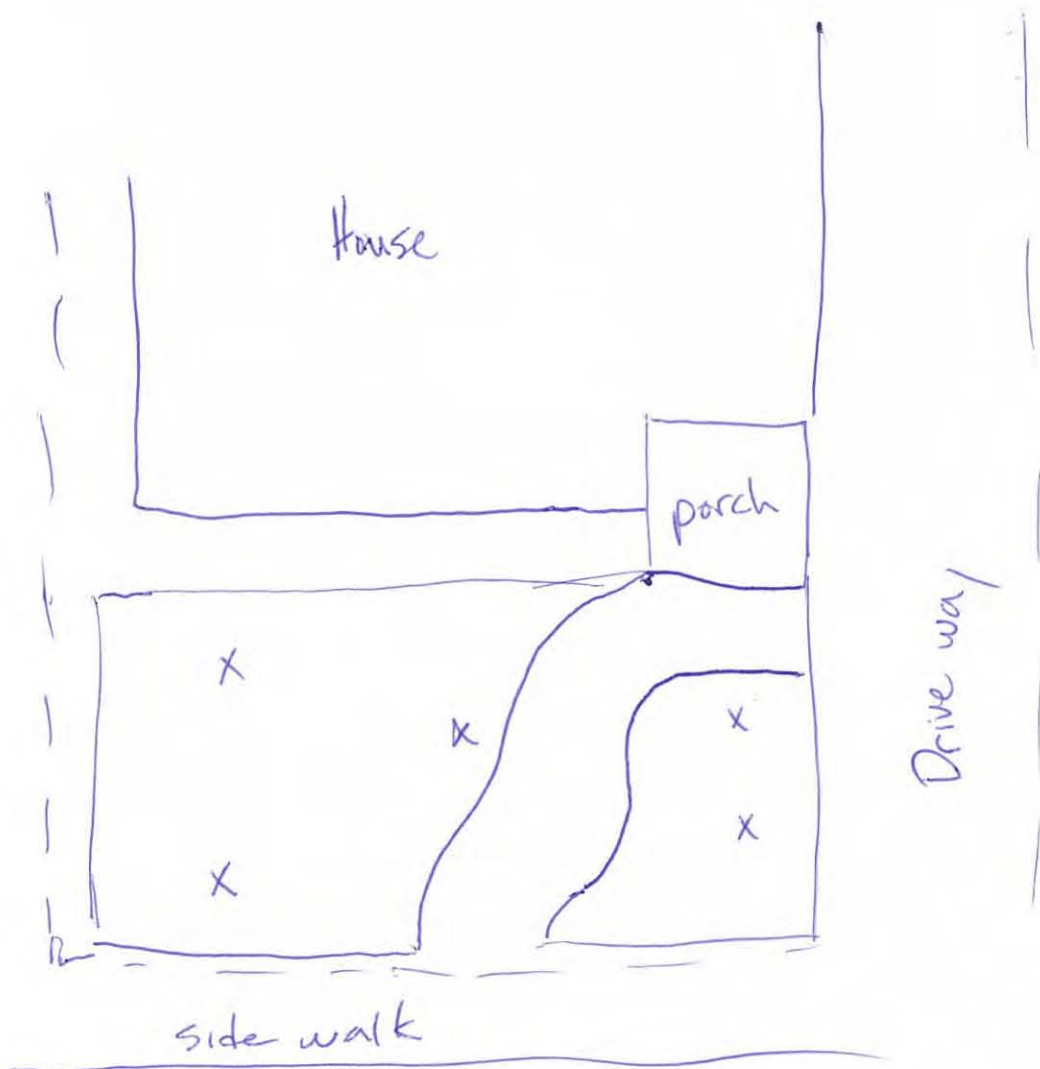


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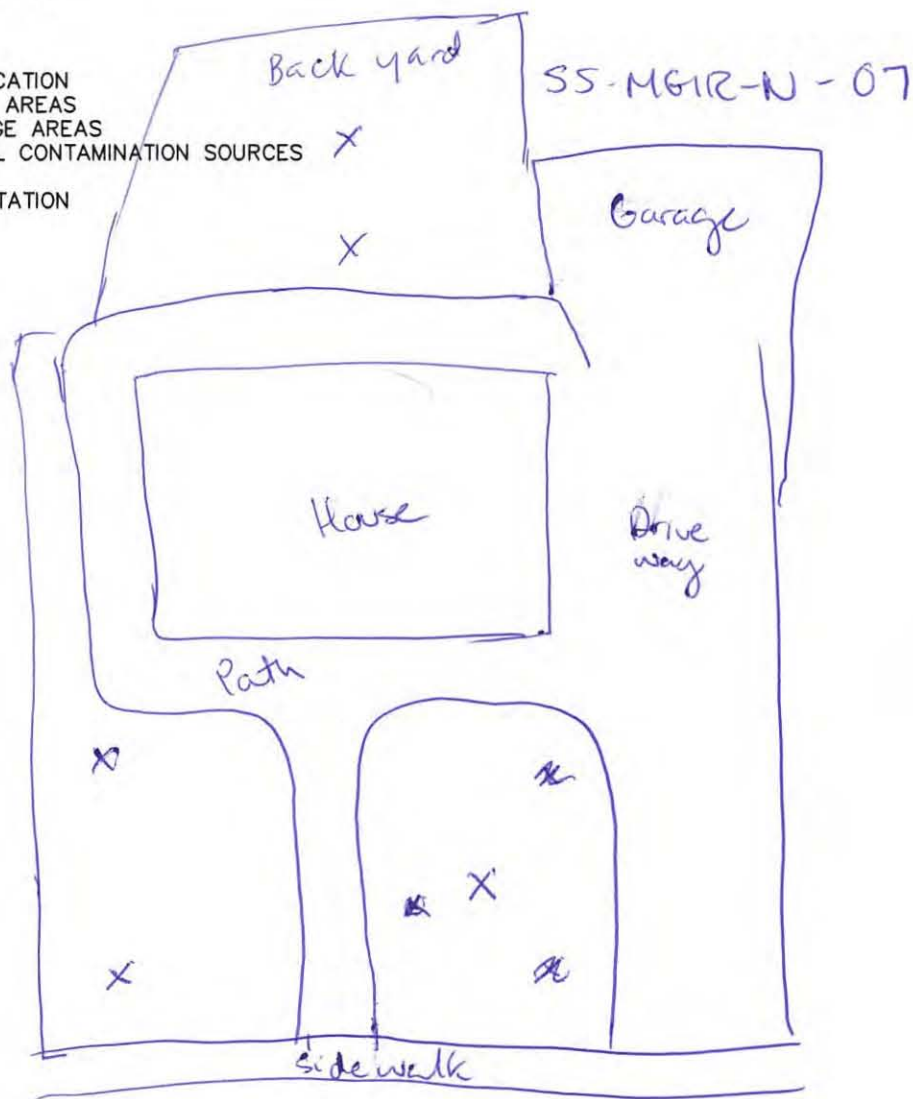
EXIDE TECHNOLOGIES  
VERNON, CALIFORNIA

PROJECT ENGINEER:	P.G.S.	SCALE:	NTS
CHECKED BY:		PROJECT NUMBER:	2013-3007
DRAWN BY:	KO	DATE:	FIGURE: SK-1

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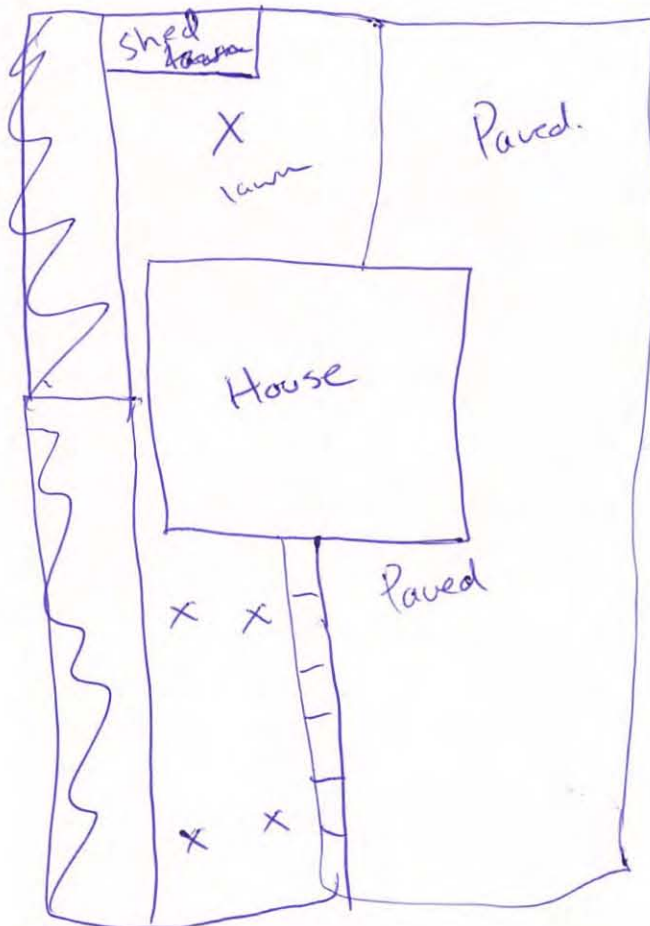
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CHECKED BY:		PROJECT NUMBER:	2013-3007
DRAWN BY:	KO	DATE:	FIGURE: SK-1

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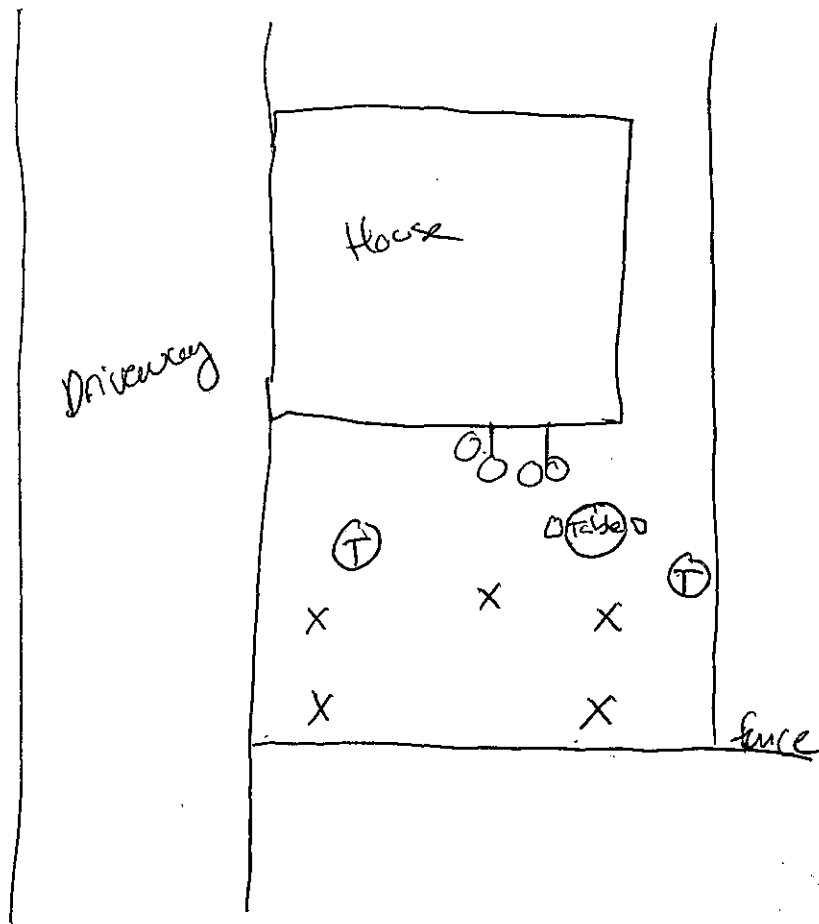
PROJECT ENGINEER:	P.G.S.	SCALE:	NTS
CHECKED BY:		PROJECT NUMBER:	2013-3007
DRAWN BY:	KO	DATE:	FIGURE: SK-1

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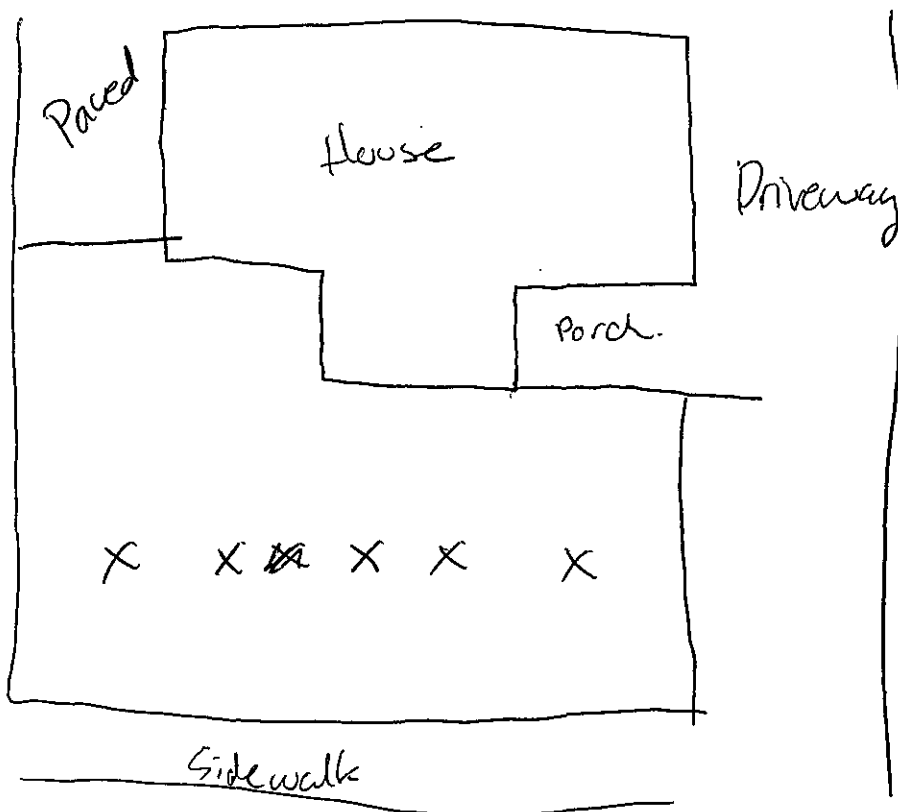
PROJECT ENGINEER:	P.G.S.	SCALE:	NTS
CHECKED BY:		PROJECT NUMBER:	2013-3007
DRAWN BY:	KO	DATE:	FIGURE: SK-1

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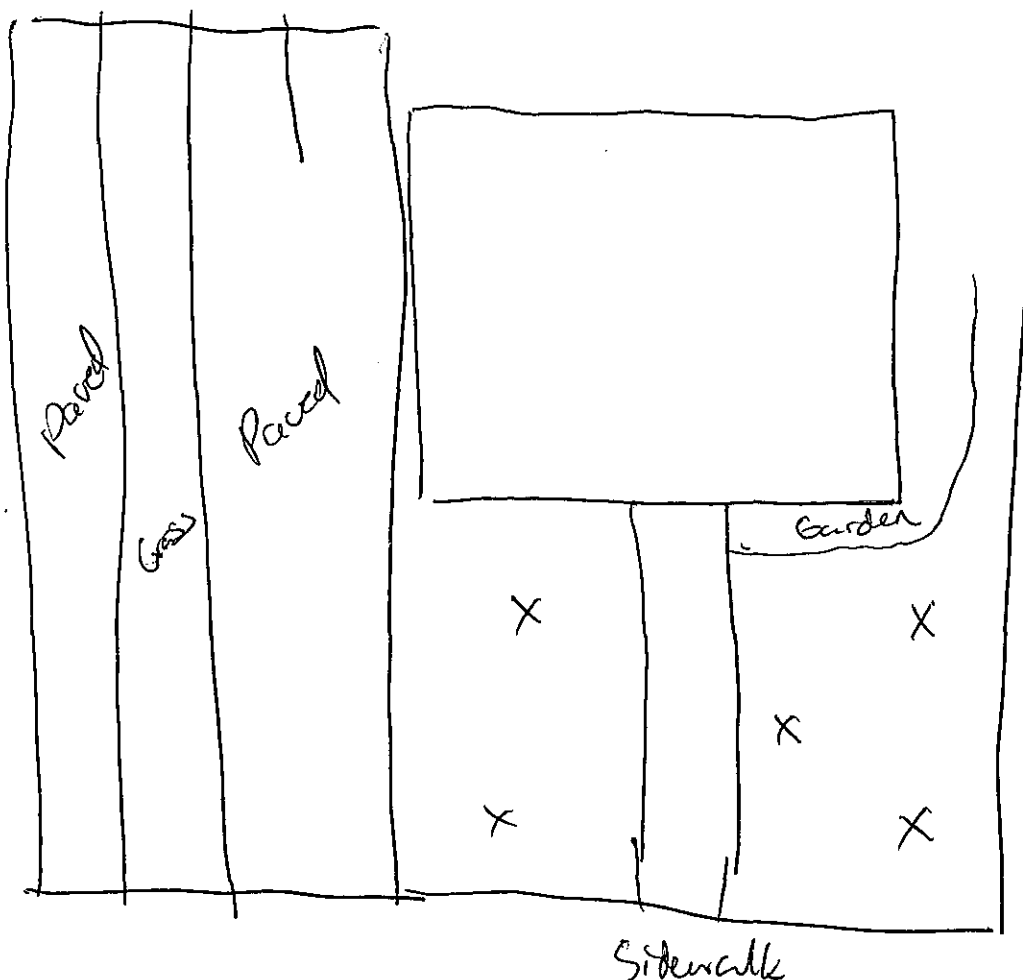
DRAWN BY: KO DATE: FIGURE: SK-1

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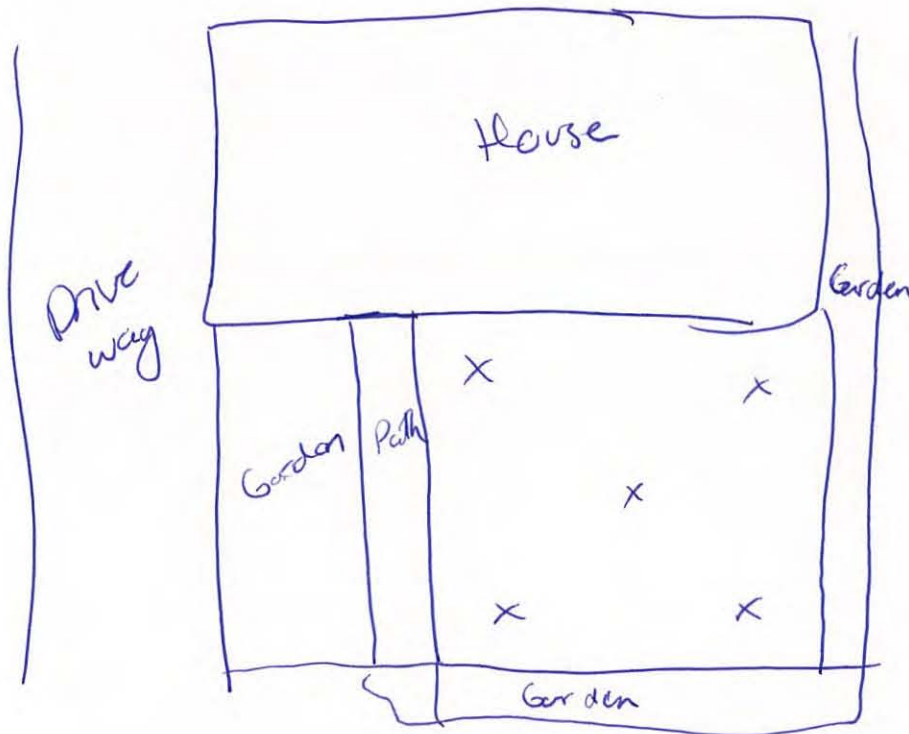
DRAWN BY: KO DATE: FIGURE: SK-1

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PROJECT ENGINEER:	P.G.S.	SCALE:	NTS
CHECKED BY:		PROJECT NUMBER:	2013-3007
DRAWN BY:	KO	DATE:	FIGURE: SK-1

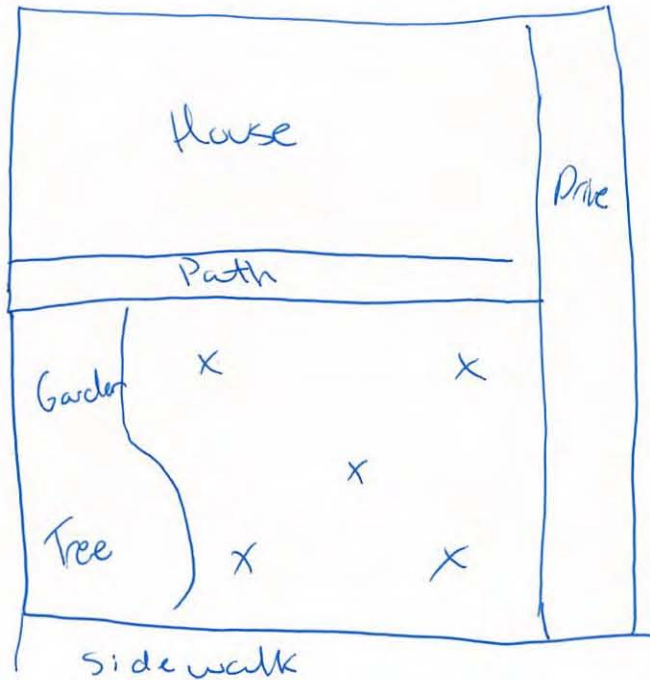


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- STORMWATER DRAINAGE AREAS
- ADDITIONAL POTENTIAL CONTAMINATION SOURCES

OBTAIN PHOTO-DOCUMENTATION

SS-Meir-W-13



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## RESIDENTIAL OFF-SITE PROPERTY SKETCH

EXIDE TECHNOLOGIES  
VERNON, CALIFORNIA

PROJECT ENGINEER: P.G.S. SCALE: NTS

CHECKED BY: PROJECT NUMBER: 2013-3007

DRAWN BY: KO DATE: FIGURE: SK-1

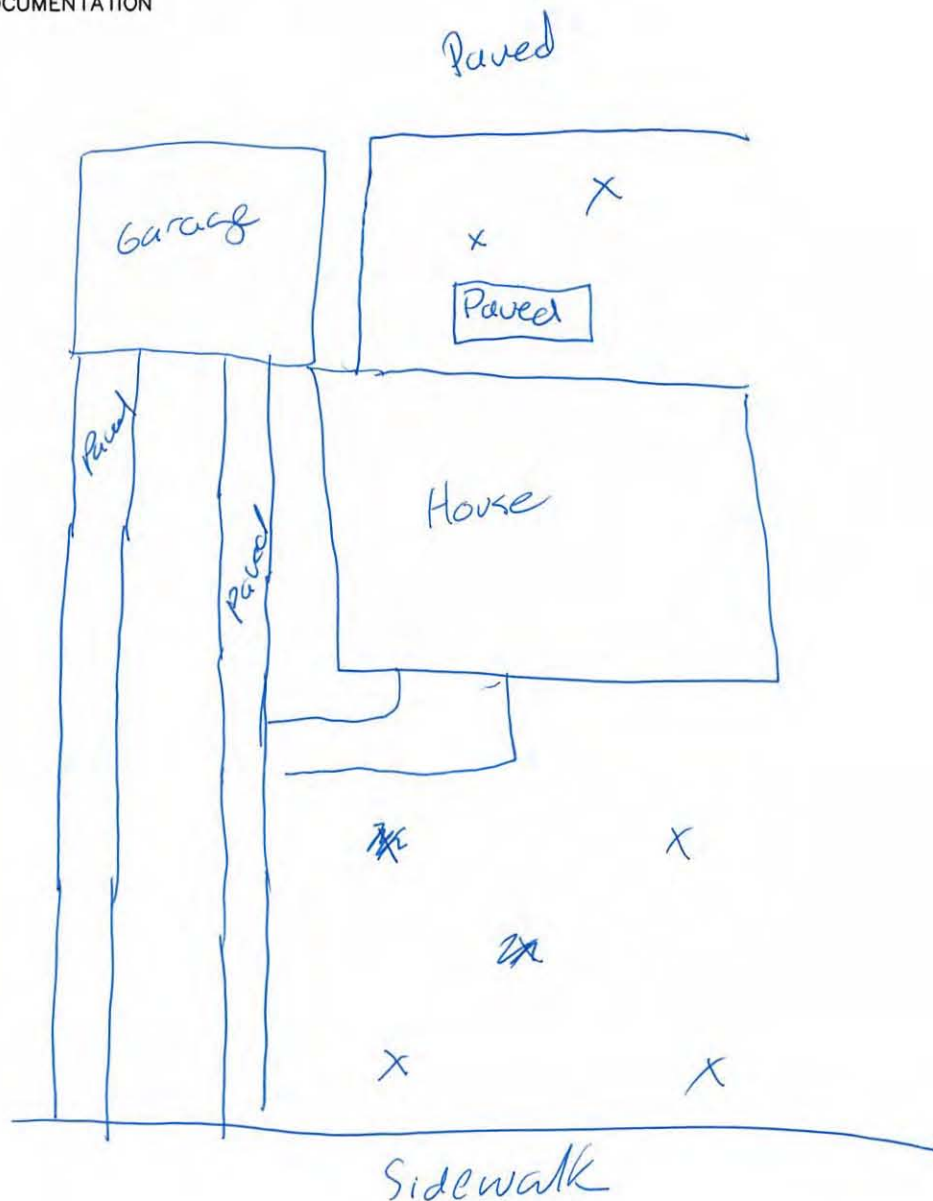


INCLUDE THE FOLLOWING ON SKETCH AS APPLICABLE:

- SAMPLE LOCATIONS
- PAINTED STRUCTURES
- PAVED/PATIO AREAS
- DRIVEWAY/PARKING AREAS
- GRASSY AREAS
- BARE SOIL AREAS
- PLAY AREAS
- STREET/SIDEWALK LOCATION
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- ADDITIONAL POTENTIAL CONTAMINATION SOURCES

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EXIDE TECHNOLOGIES  
VERNON, CALIFORNIA

PROJECT ENGINEER: P.G.S. SCALE: NTS

CHECKED BY: PROJECT NUMBER: 2013-3007

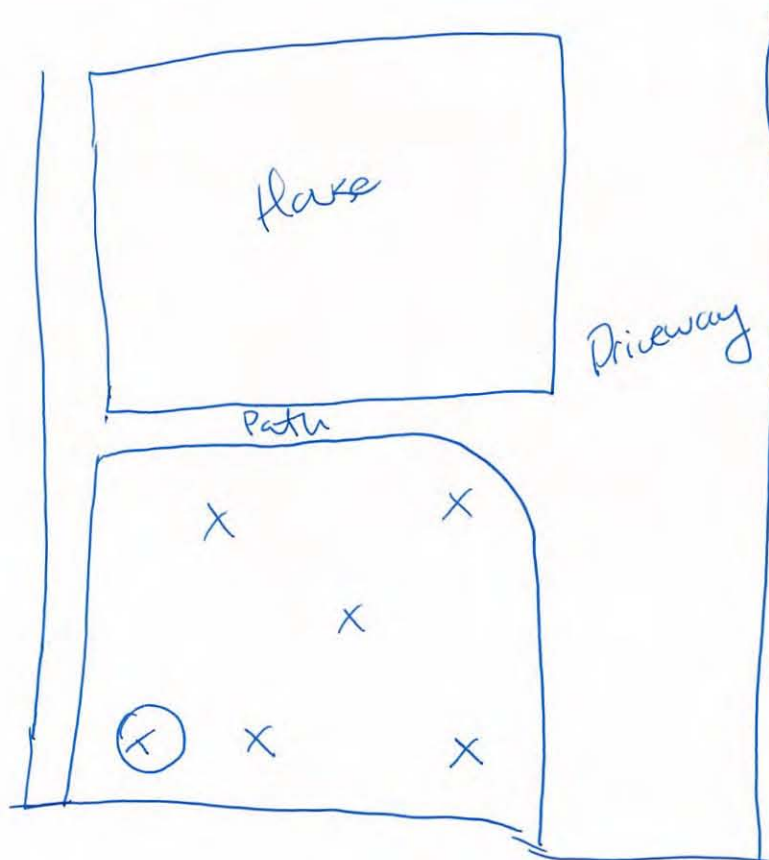
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- PAVED/PATIO AREAS
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- ADDITIONAL POTENTIAL CONTAMINATION SOURCES

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PROJECT ENGINEER:	P.G.S.	SCALE:	NTS
CHECKED BY:		PROJECT NUMBER:	2013-3007
DRAWN BY:	KO	DATE:	FIGURE: SK-1

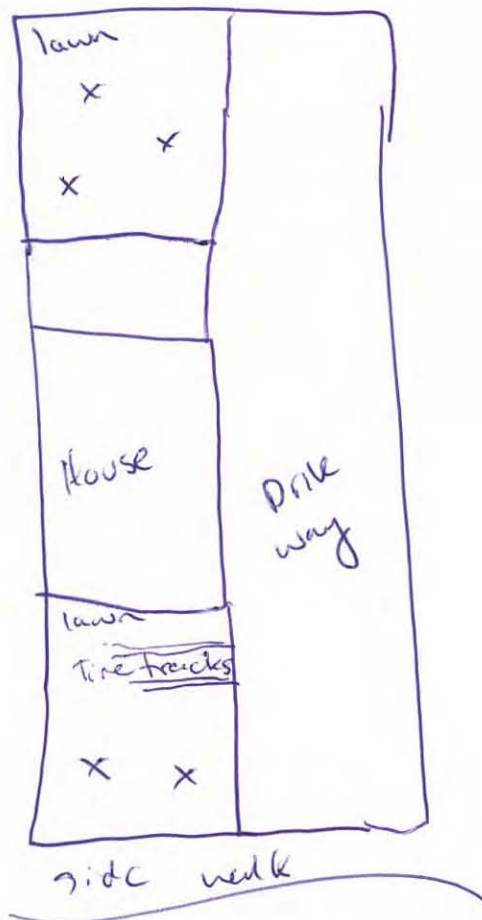
INCLUDE THE FOLLOWING ON SKETCH AS APPLICABLE:

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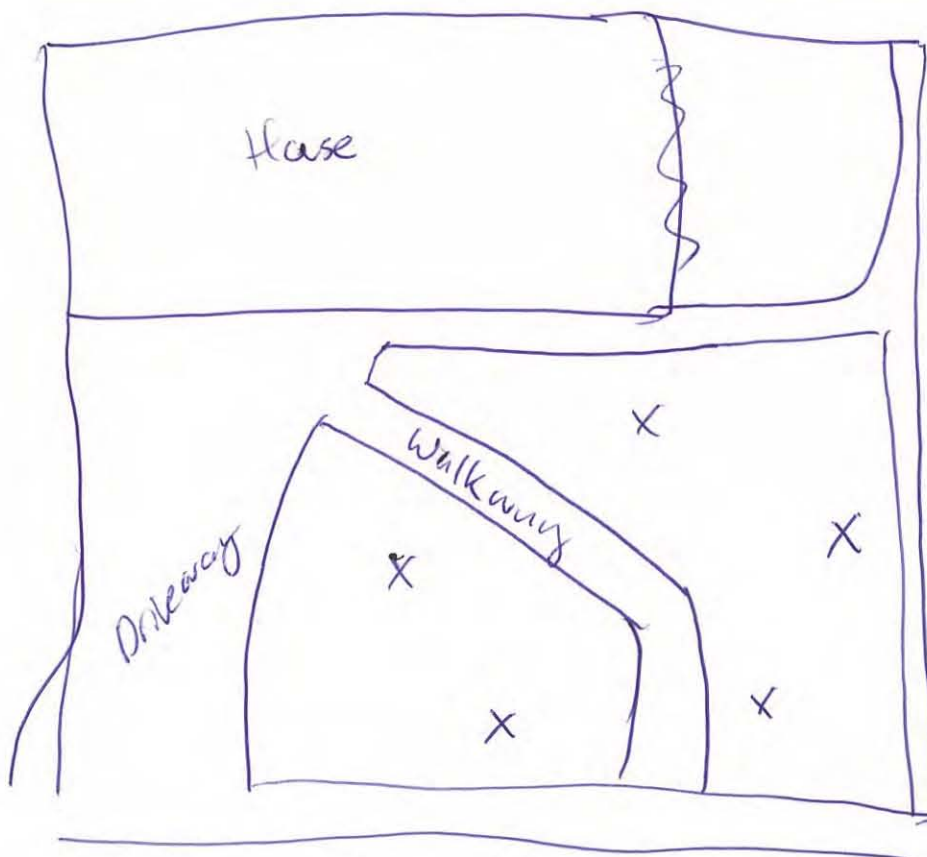
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CHECKED BY:		PROJECT NUMBER:	2013-3007
DRAWN BY:	KO	DATE:	FIGURE: SK-1

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- ADDITIONAL POTENTIAL CONTAMINATION SOURCES

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PROJECT ENGINEER: P.G.S. SCALE: NTS

CHECKED BY: PROJECT NUMBER: 2013-3007

DRAWN BY: KO DATE: FIGURE: SK-1

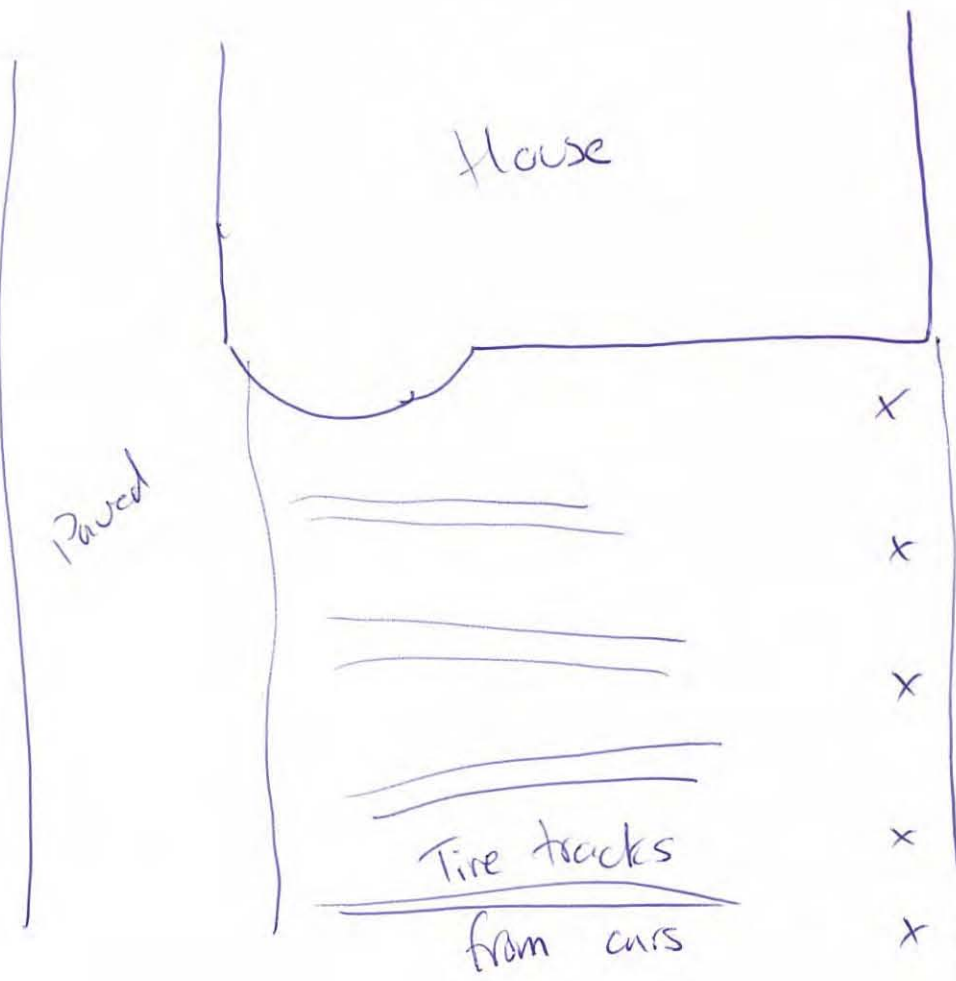


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- PAVED/PATIO AREAS
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- ADDITIONAL POTENTIAL CONTAMINATION SOURCES

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PROJECT ENGINEER: P.G.S. SCALE: NTS

CHECKED BY: PROJECT NUMBER: 2013-3007

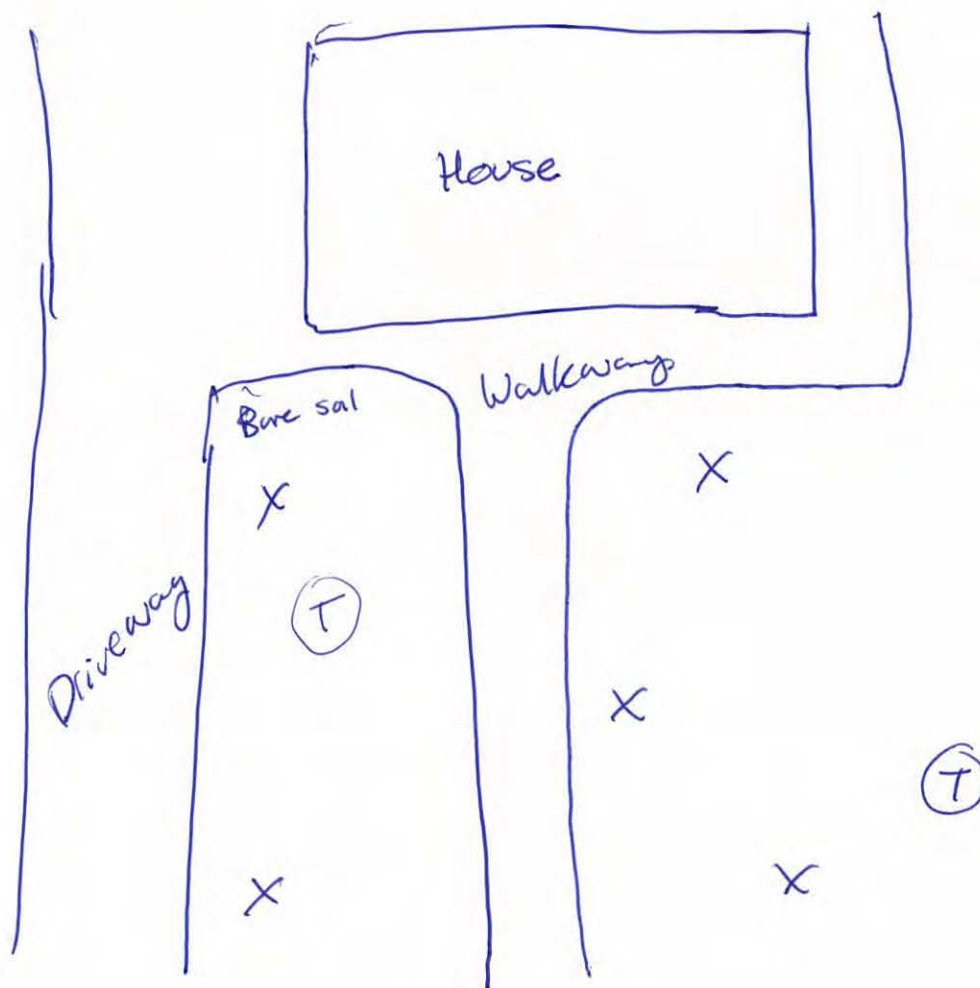
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- STORMWATER DRAINAGE AREAS
- ADDITIONAL POTENTIAL CONTAMINATION SOURCES

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PROJECT ENGINEER: P.G.S. SCALE: NTS

CHECKED BY: PROJECT NUMBER: 2013-3007

DRAWN BY: KO DATE: FIGURE: SK-1

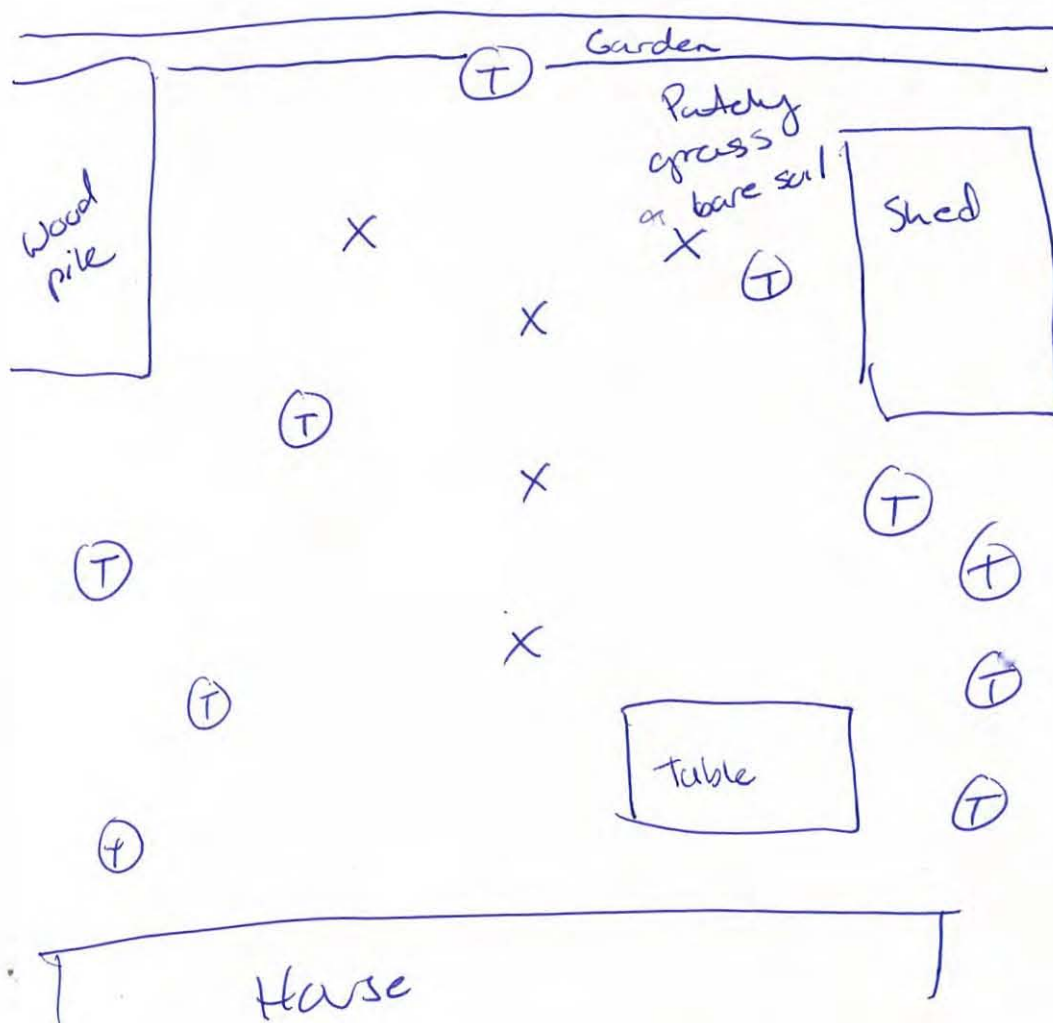
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- PAVED/PATIO AREAS
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- STREET/SIDEWALK LOCATION
- RECENTLY DISTURBED AREAS
- STORMWATER DRAINAGE AREAS
- ADDITIONAL POTENTIAL CONTAMINATION SOURCES

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PROJECT ENGINEER: P.G.S. SCALE: NTS

CHECKED BY: PROJECT NUMBER: 2013-3007

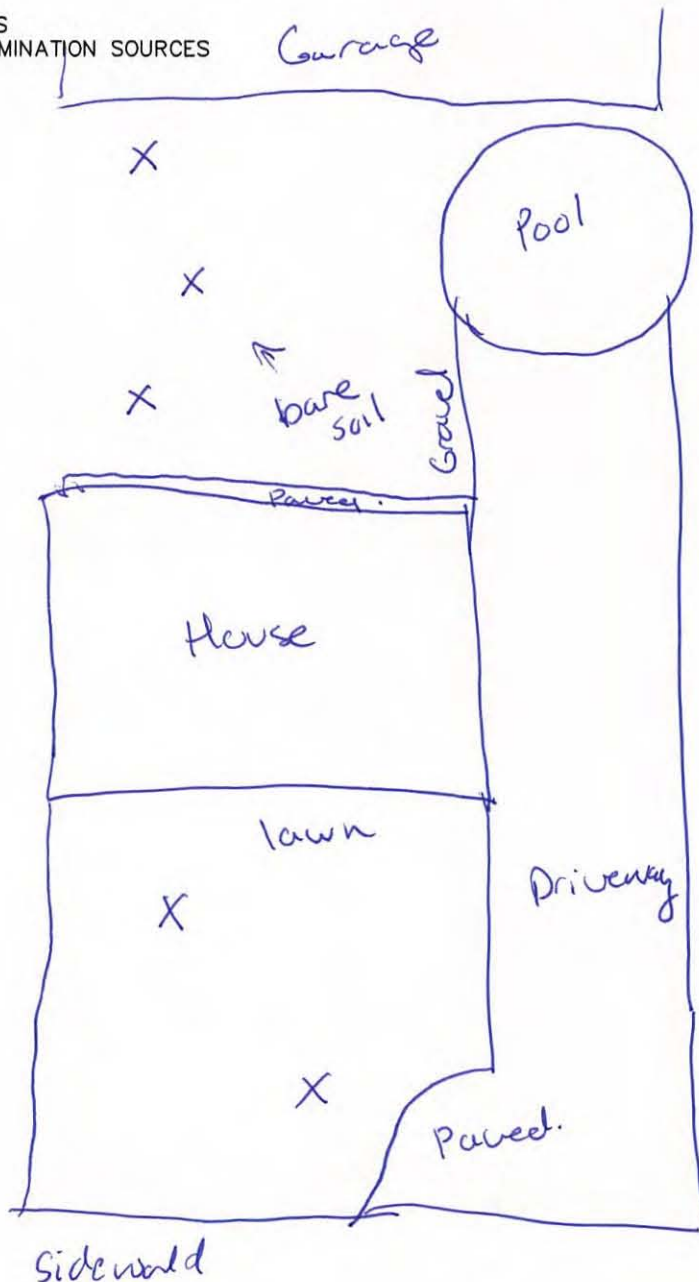
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PROJECT ENGINEER: P.G.S. SCALE: NTS

CHECKED BY: PROJECT NUMBER: 2013-3007

DRAWN BY: KO DATE: FIGURE: SK-1

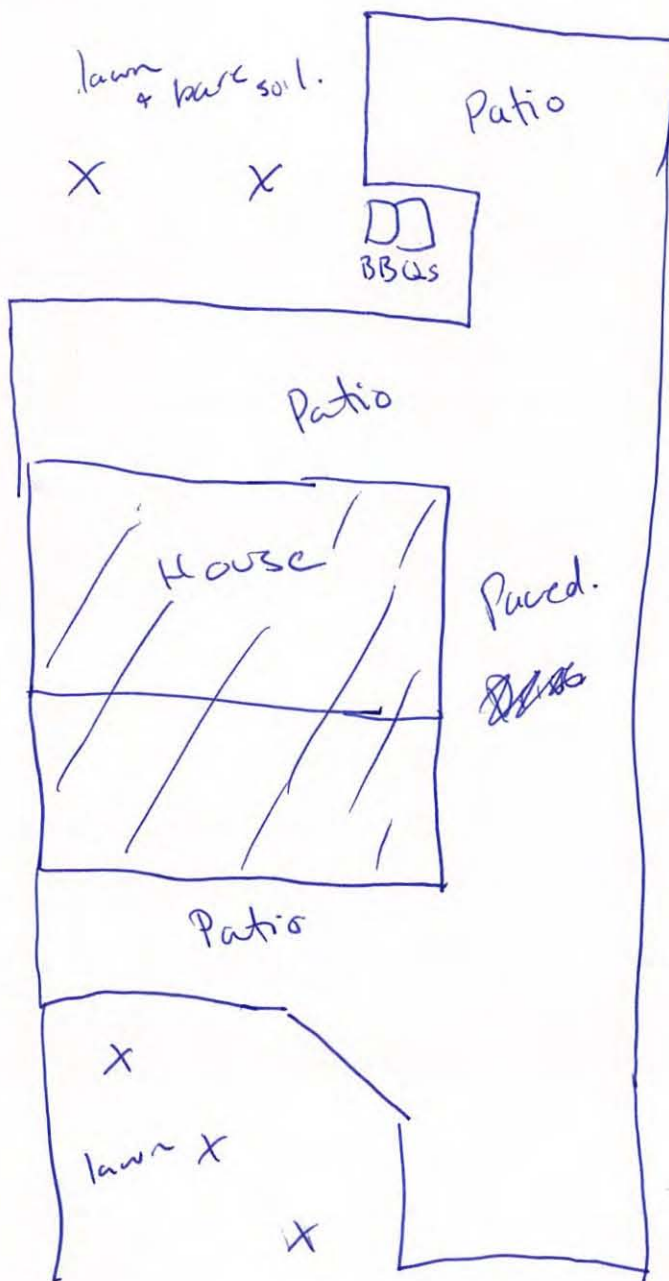


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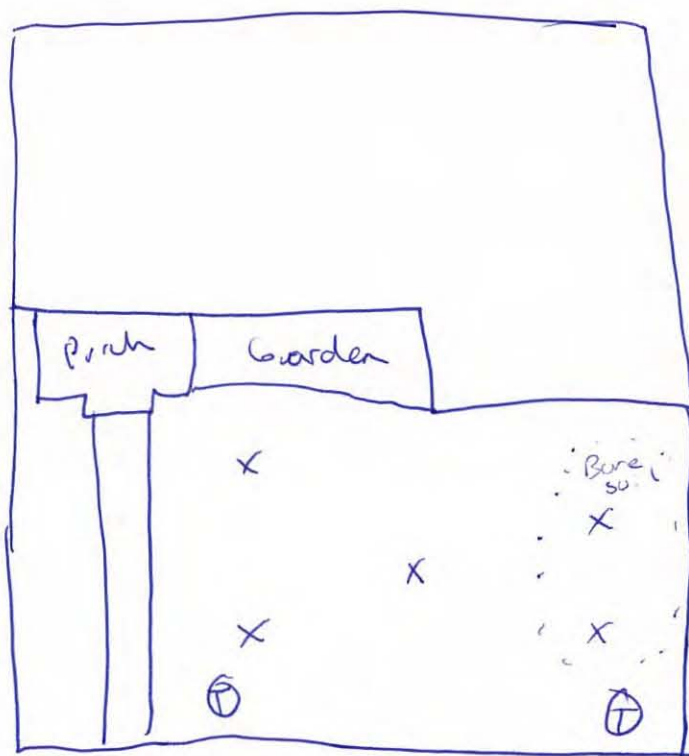
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CHECKED BY:		PROJECT NUMBER:	2013-3007
DRAWN BY:	KO	DATE:	FIGURE: SK-1

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- ADDITIONAL POTENTIAL CONTAMINATION SOURCES

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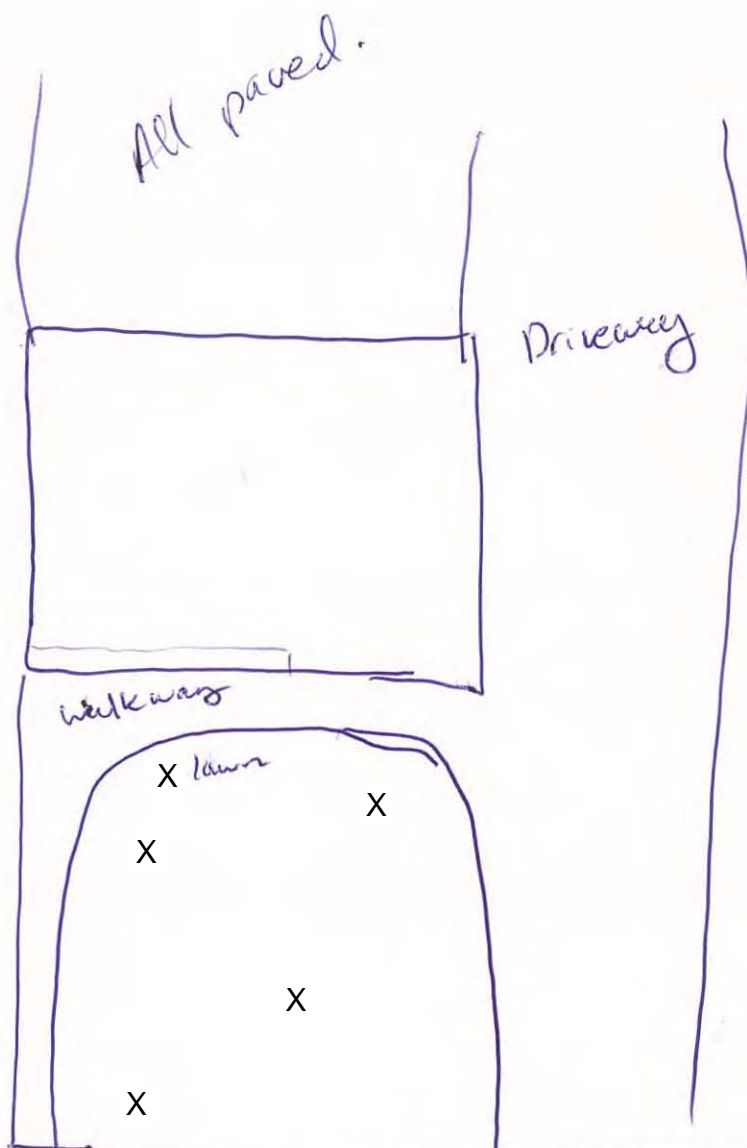
PROJECT ENGINEER:	P.G.S.	SCALE:	NTS
CHECKED BY:		PROJECT NUMBER:	2013-3007
DRAWN BY:	KO	DATE:	FIGURE: SK-1

INCLUDE THE FOLLOWING ON SKETCH AS APPLICABLE:

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- STORMWATER DRAINAGE AREAS
- ADDITIONAL POTENTIAL CONTAMINATION SOURCES

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PROJECT ENGINEER: P.G.S. SCALE: NTS

CHECKED BY: PROJECT NUMBER: 2013-3007

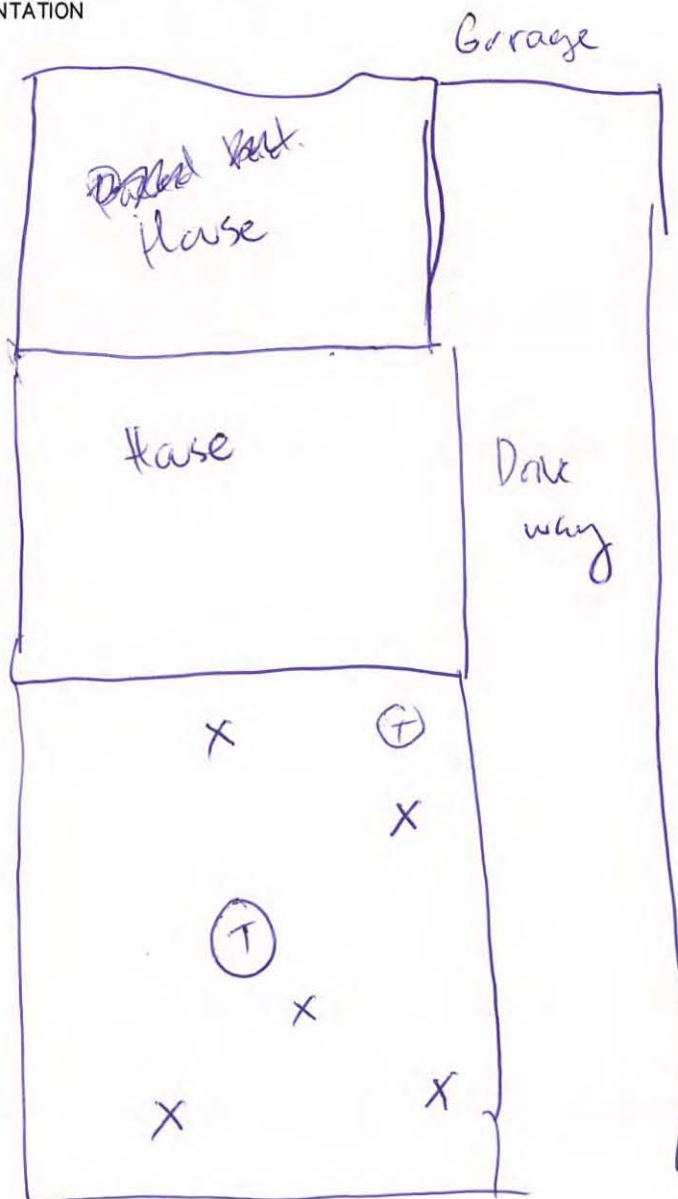
DRAWN BY: KO DATE: FIGURE: SK-1

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- STORMWATER DRAINAGE AREAS
- ADDITIONAL POTENTIAL CONTAMINATION SOURCES

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PROJECT ENGINEER: P.G.S. SCALE: NTS

CHECKED BY: PROJECT NUMBER: 2013-3007

DRAWN BY: KO DATE: FIGURE: SK-1

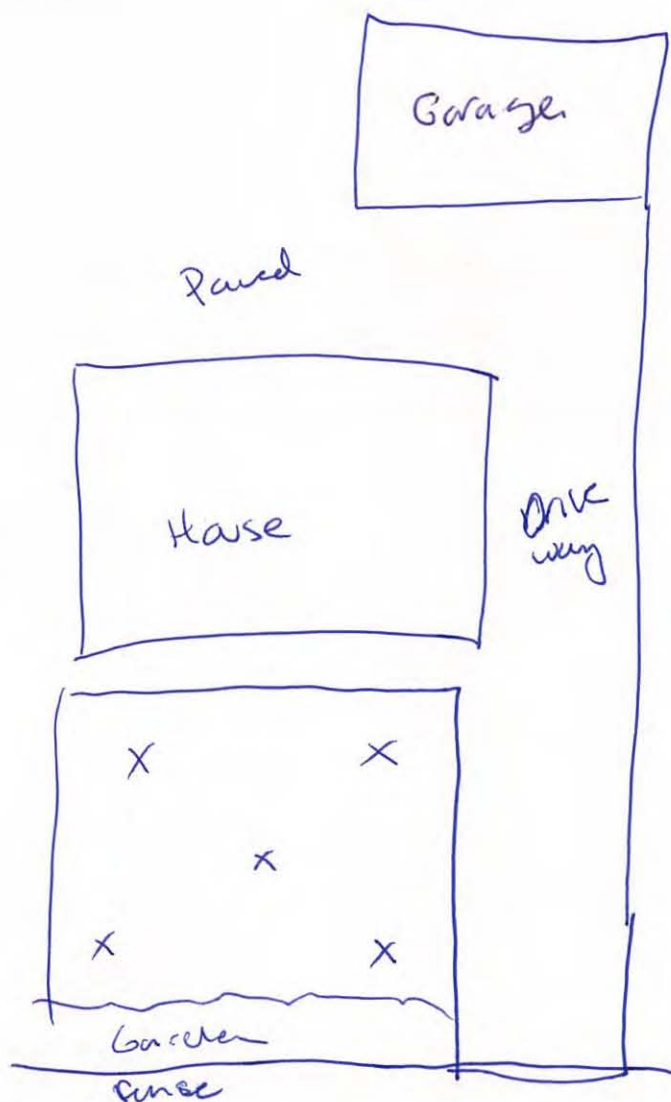


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- ADDITIONAL POTENTIAL CONTAMINATION SOURCES

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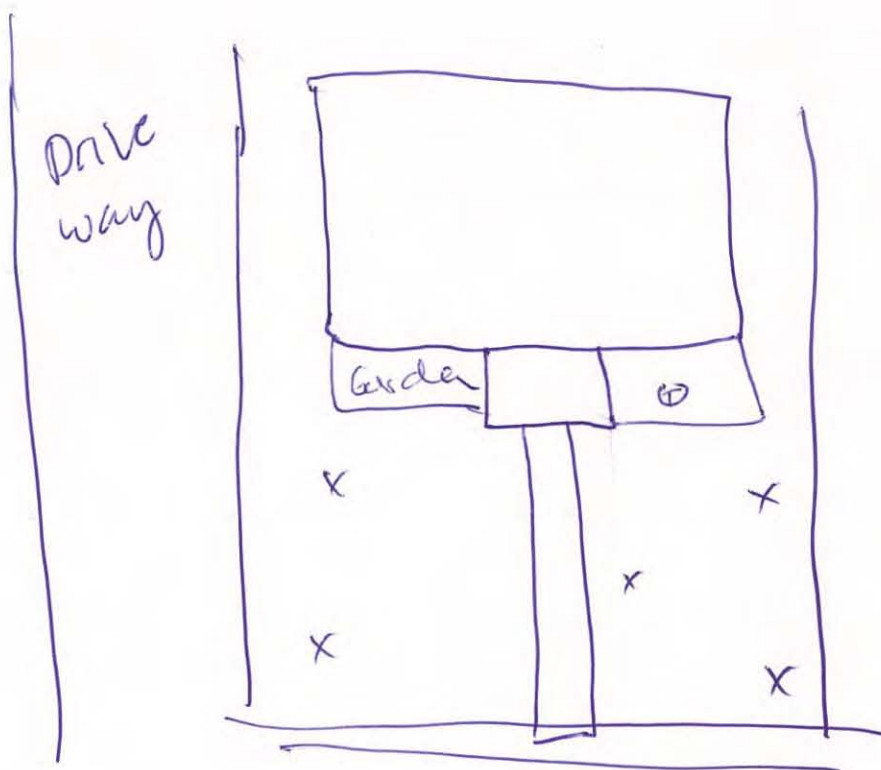
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CHECKED BY:		PROJECT NUMBER:	2013-3007
DRAWN BY:	KO	DATE:	FIGURE: SK-1

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PROJECT ENGINEER: P.G.S. SCALE: NTS

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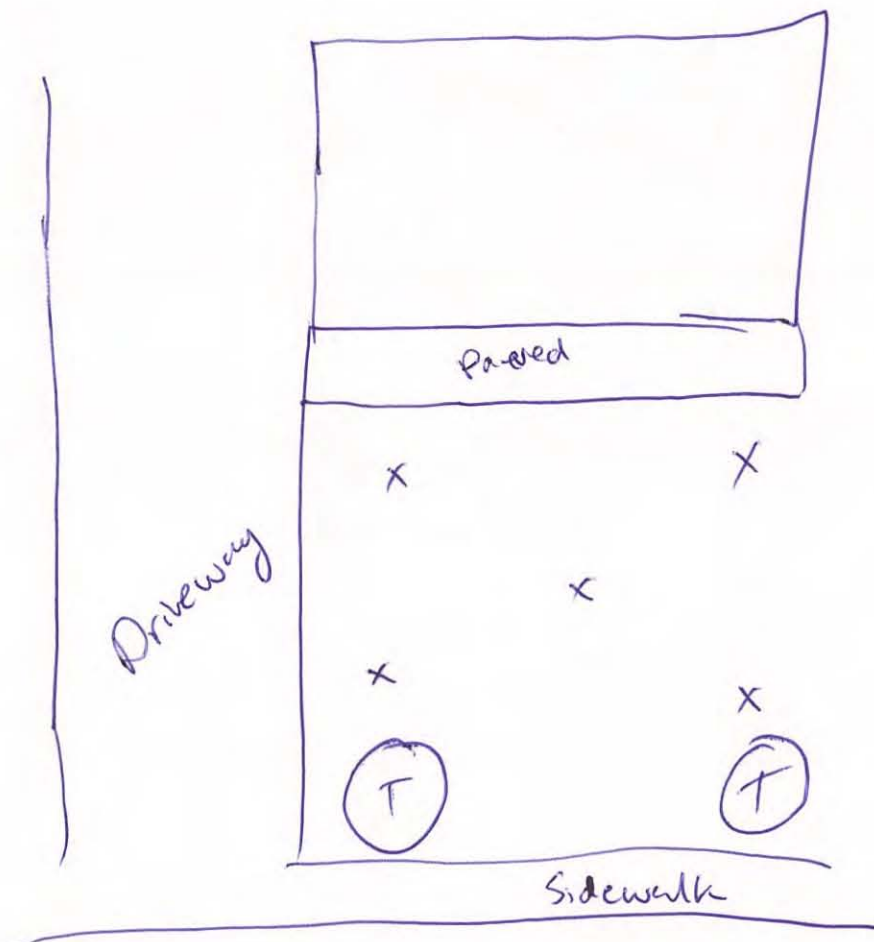
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PROJECT ENGINEER: P.G.S. SCALE: NTS

CHECKED BY: PROJECT NUMBER: 2013-3007

DRAWN BY: KO DATE: FIGURE: SK-1

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- ADDITIONAL POTENTIAL CONTAMINATION SOURCES

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PROJECT ENGINEER:	P.G.S.	SCALE:	NTS
CHECKED BY:		PROJECT NUMBER:	2013-3007
DRAWN BY:	KO	DATE:	FIGURE: SK-1

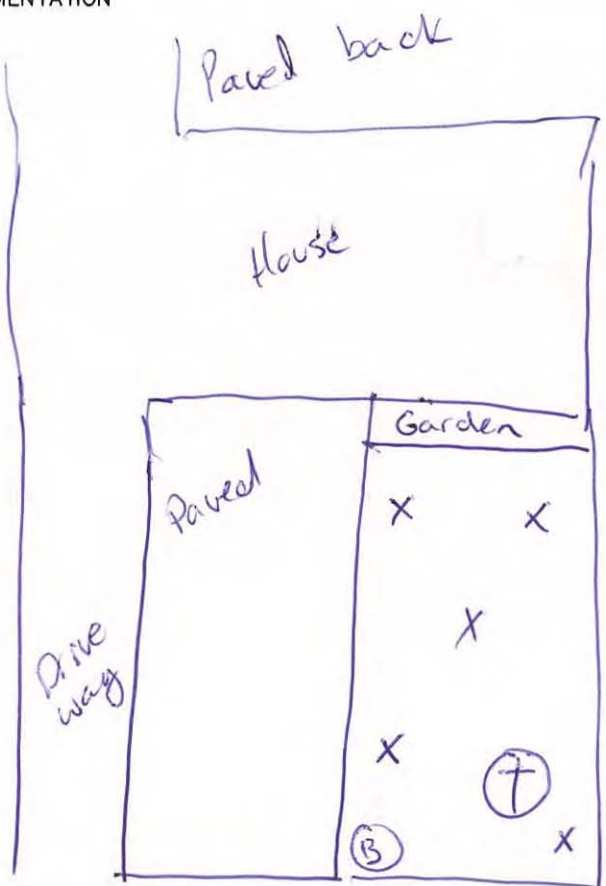


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PROJECT ENGINEER: P.G.S. SCALE: NTS

CHECKED BY: PROJECT NUMBER: 2013-3007

DRAWN BY: KO DATE: FIGURE: SK-1

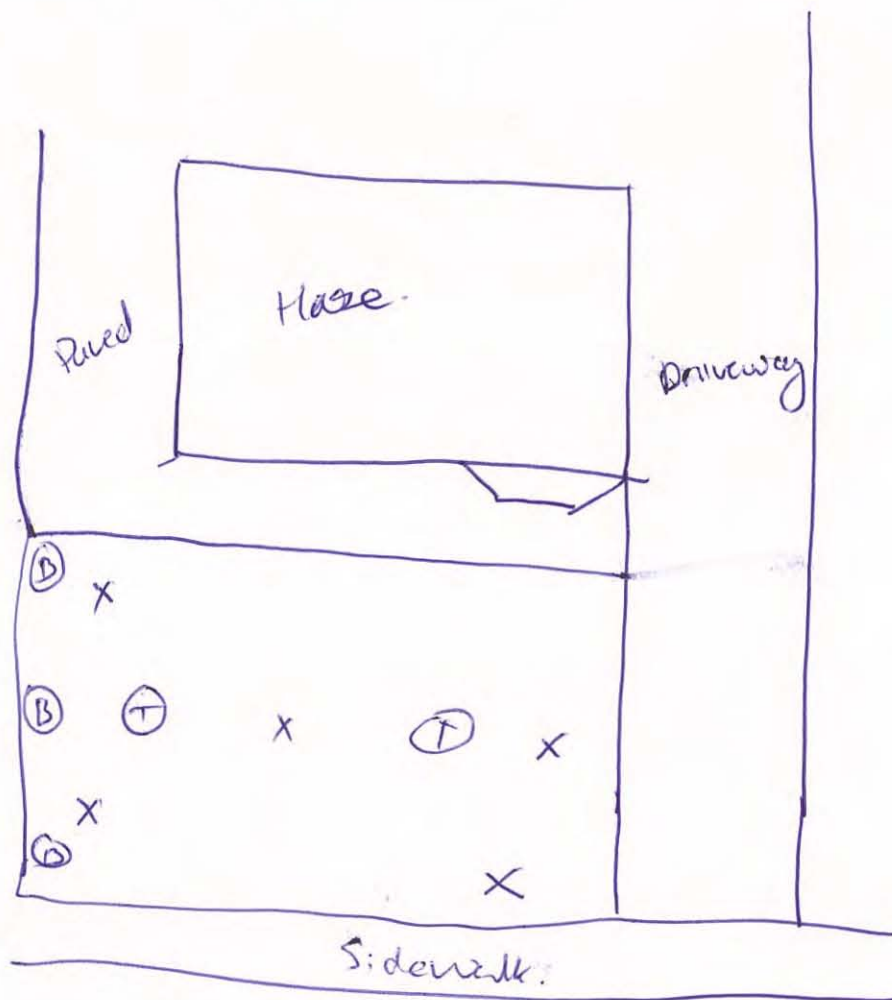
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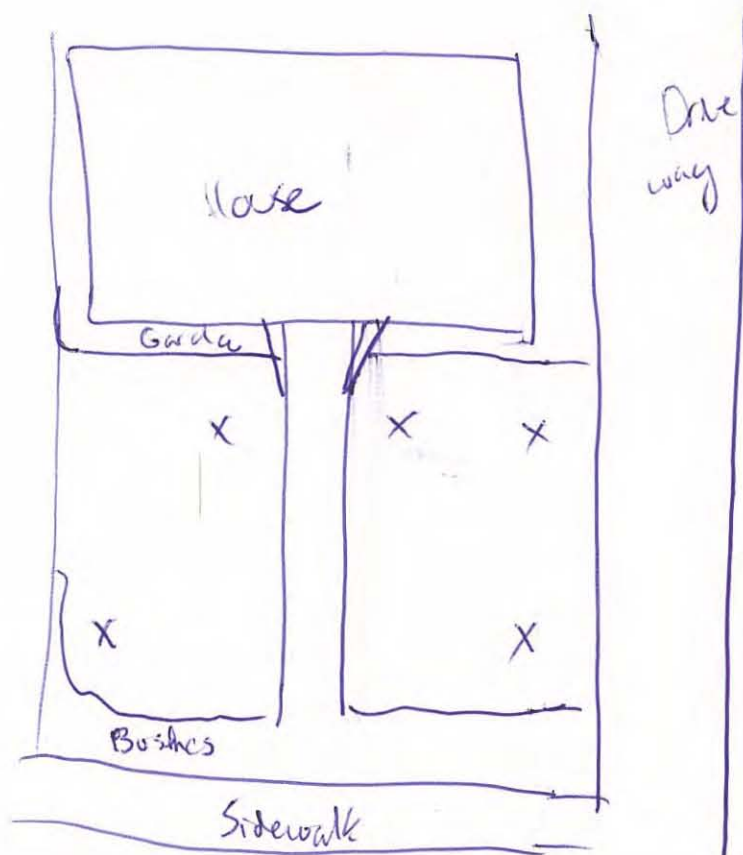
DRAWN BY: KO DATE: FIGURE: SK-1

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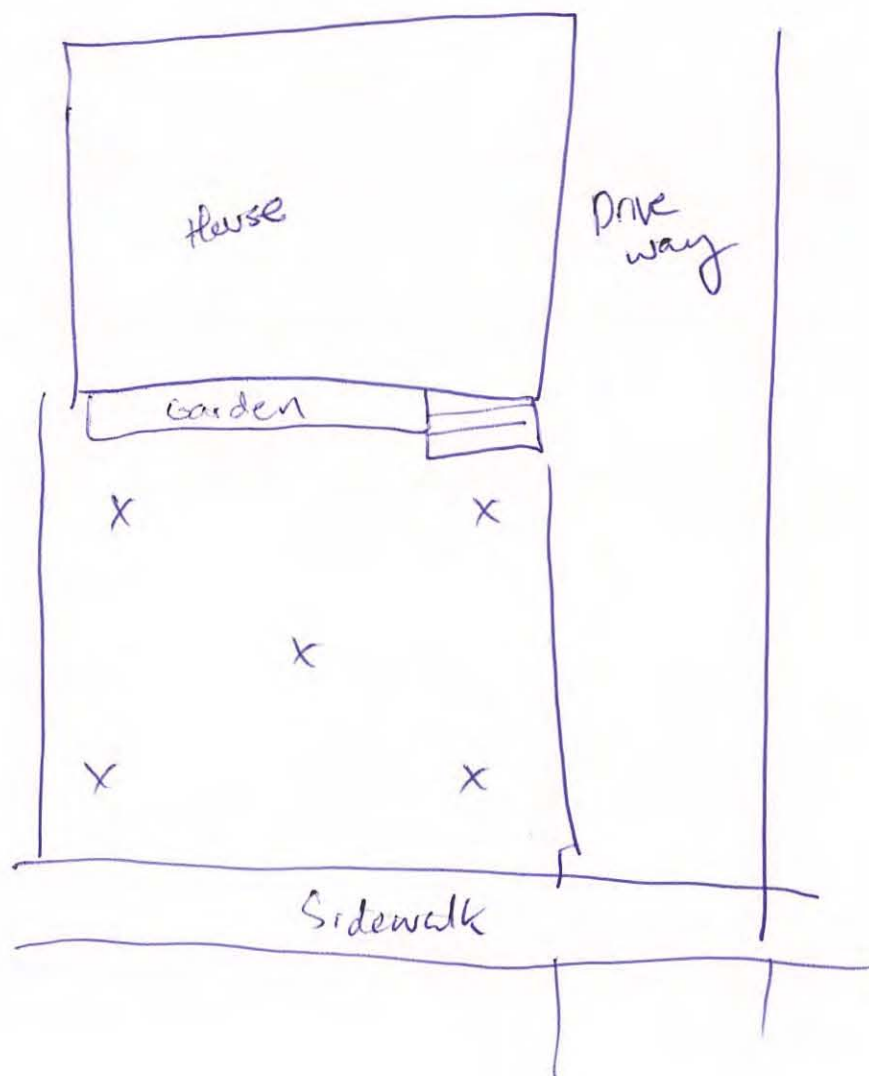
PROJECT ENGINEER:	P.G.S.	SCALE:	NTS
CHECKED BY:		PROJECT NUMBER:	2013-3007
DRAWN BY:	KO	DATE:	FIGURE: SK-1

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DRAWN BY:	KO	DATE:	FIGURE: SK-1

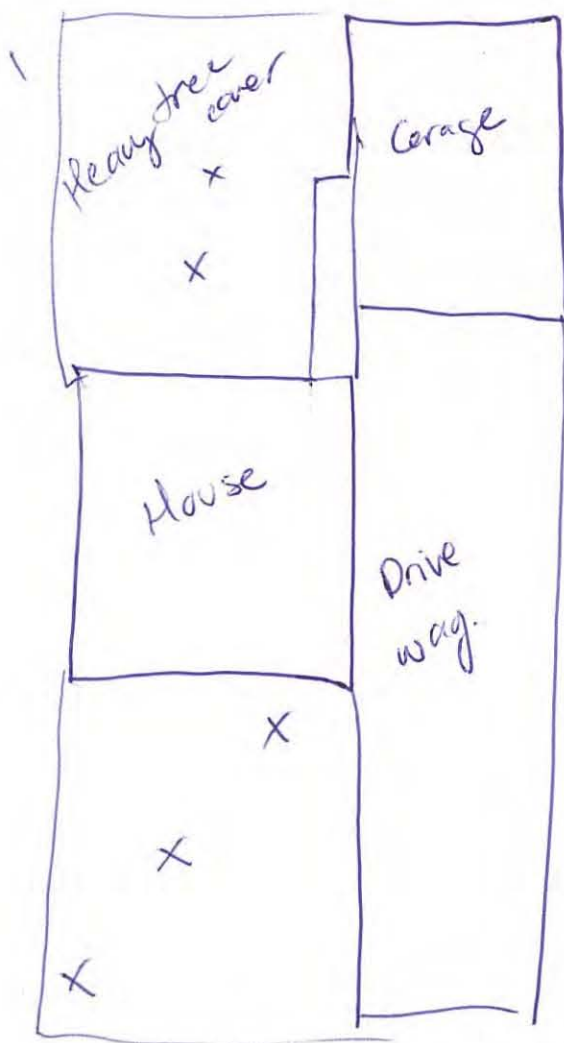


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PROJECT ENGINEER: P.G.S. SCALE: NTS

CHECKED BY: PROJECT NUMBER: 2013-3007

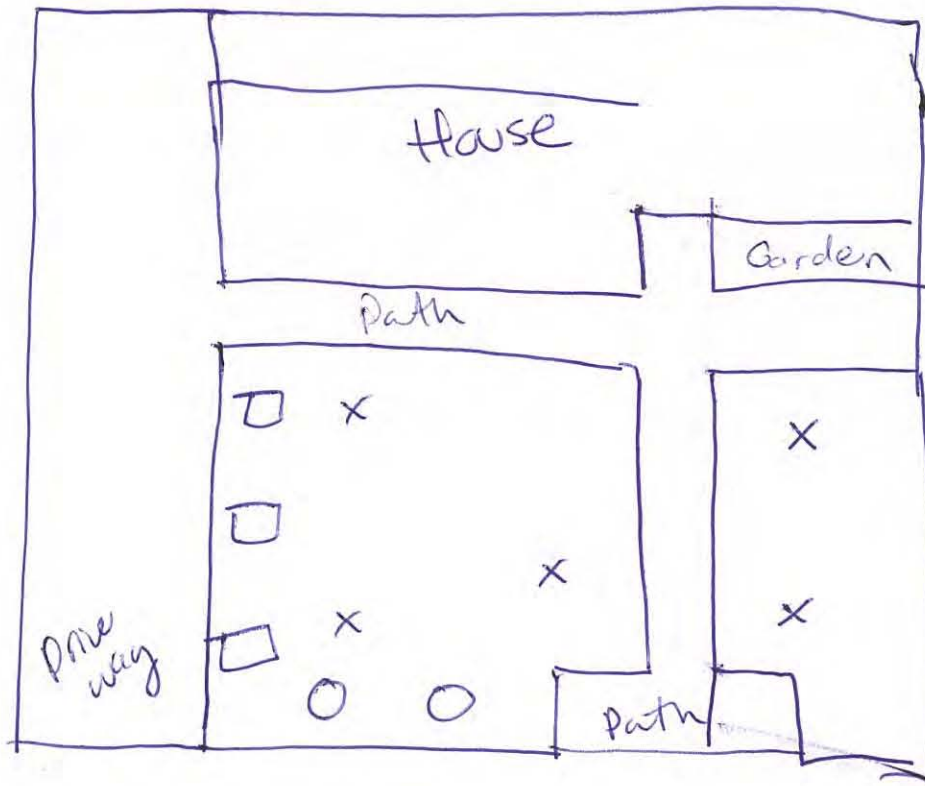
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INCLUDE THE FOLLOWING ON SKETCH AS APPLICABLE:

- SAMPLE LOCATIONS
- PAINTED STRUCTURES
- PAVED/PATIO AREAS
- DRIVEWAY/PARKING AREAS
- GRASSY AREAS
- BARE SOIL AREAS
- PLAY AREAS
- STREET/SIDEWALK LOCATION
- RECENTLY DISTURBED AREAS
- STORMWATER DRAINAGE AREAS
- ADDITIONAL POTENTIAL CONTAMINATION SOURCES

SS-MEIR-S-16

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EXIDE TECHNOLOGIES  
VERNON, CALIFORNIA

PROJECT ENGINEER:	P.G.S.	SCALE:	NTS
CHECKED BY:		PROJECT NUMBER:	2013-3007
DRAWN BY:	KO	DATE:	FIGURE: SK-1

INCLUDE THE FOLLOWING ON SKETCH AS APPLICABLE:

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- ADDITIONAL POTENTIAL CONTAMINATION SOURCES

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EXIDE TECHNOLOGIES  
VERNON, CALIFORNIA

PROJECT ENGINEER: P.G.S. SCALE: NTS

CHECKED BY: PROJECT NUMBER: 2013-3007

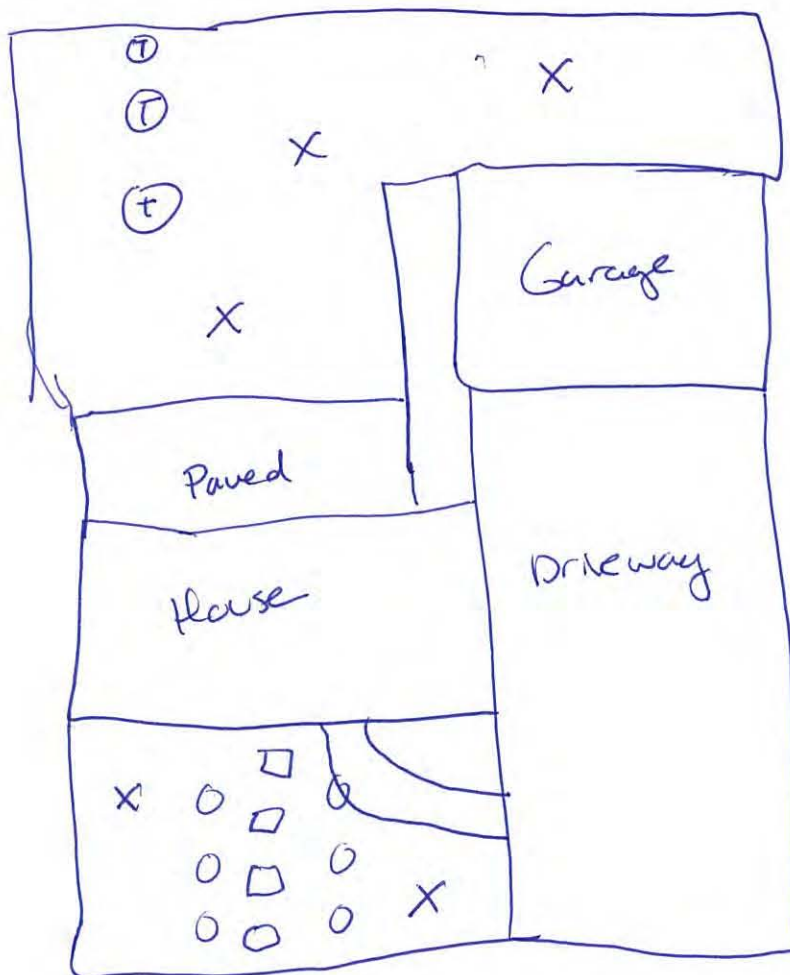
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- PLAY AREAS
- STREET/SIDEWALK LOCATION
- RECENTLY DISTURBED AREAS
- STORMWATER DRAINAGE AREAS
- ADDITIONAL POTENTIAL CONTAMINATION SOURCES

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EXIDE TECHNOLOGIES  
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PROJECT ENGINEER:	P.G.S.	SCALE:	NTS
CHECKED BY:		PROJECT NUMBER:	2013-3007
DRAWN BY:	KO	DATE:	FIGURE: SK-1

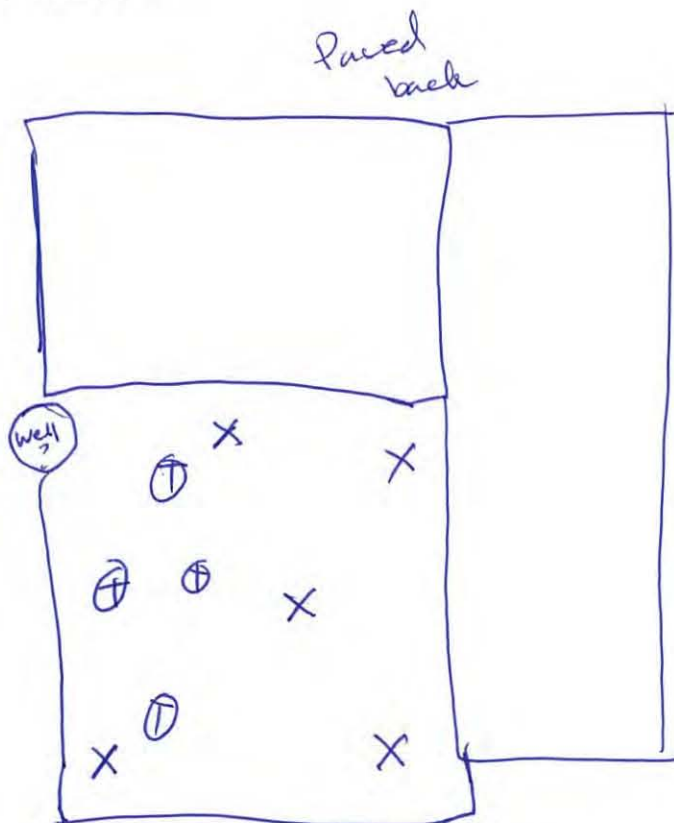


INCLUDE THE FOLLOWING ON SKETCH AS APPLICABLE:

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- GRASSY AREAS
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- PLAY AREAS
- STREET/SIDEWALK LOCATION
- RECENTLY DISTURBED AREAS
- STORMWATER DRAINAGE AREAS
- ADDITIONAL POTENTIAL CONTAMINATION SOURCES

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EXIDE TECHNOLOGIES  
VERNON, CALIFORNIA

PROJECT ENGINEER: P.G.S. SCALE: NTS

CHECKED BY: PROJECT NUMBER: 2013-3007

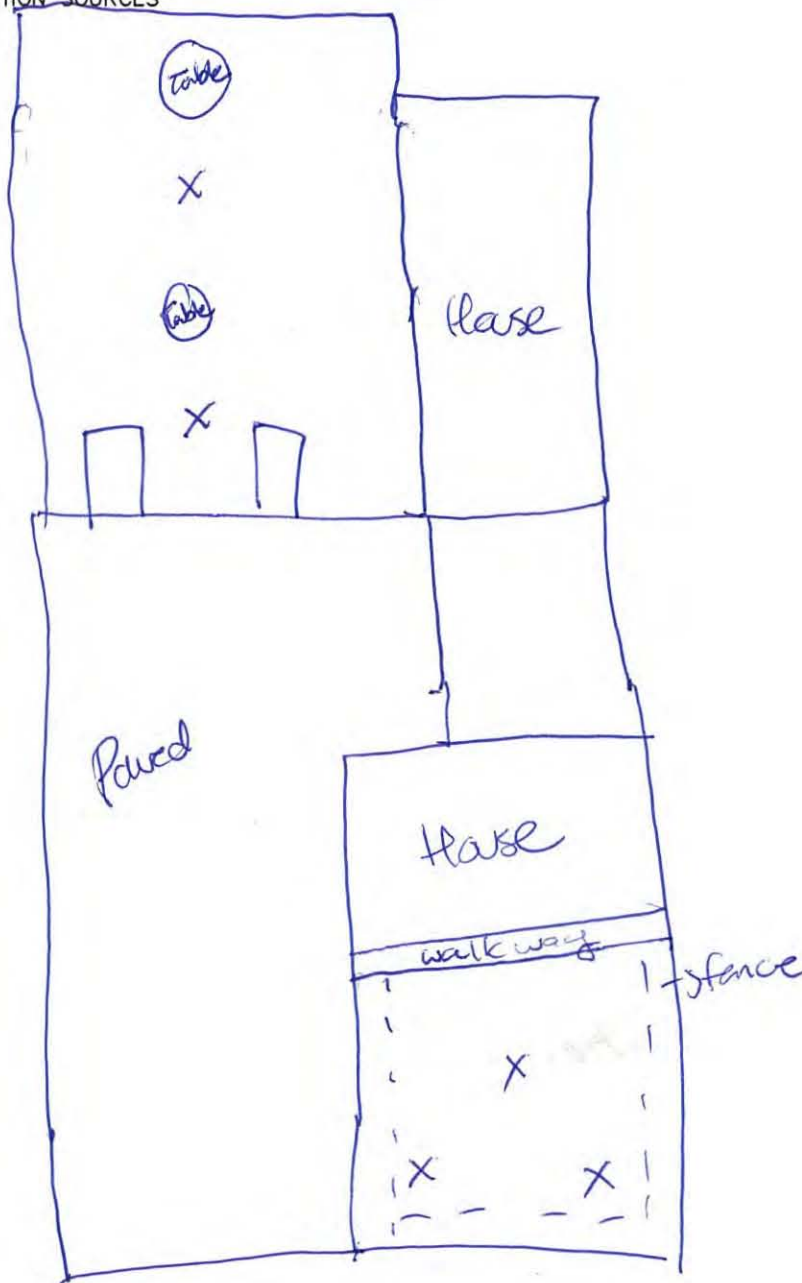
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INCLUDE THE FOLLOWING ON SKETCH AS APPLICABLE:

- SAMPLE LOCATIONS
- PAINTED STRUCTURES
- PAVED/PATIO AREAS
- DRIVEWAY/PARKING AREAS
- GRASSY AREAS
- BARE SOIL AREAS
- PLAY AREAS
- STREET/SIDEWALK LOCATION
- RECENTLY DISTURBED AREAS
- STORMWATER DRAINAGE AREAS
- ADDITIONAL POTENTIAL CONTAMINATION SOURCES

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SS-M612-5-21



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EXIDE TECHNOLOGIES  
VERNON, CALIFORNIA

PROJECT ENGINEER:	P.G.S.	SCALE:	NTS
CHECKED BY:		PROJECT NUMBER:	2013-3007
DRAWN BY:	KO	DATE:	FIGURE: SK-1





WHITTIER BLVD.

S. ALMA AVE.

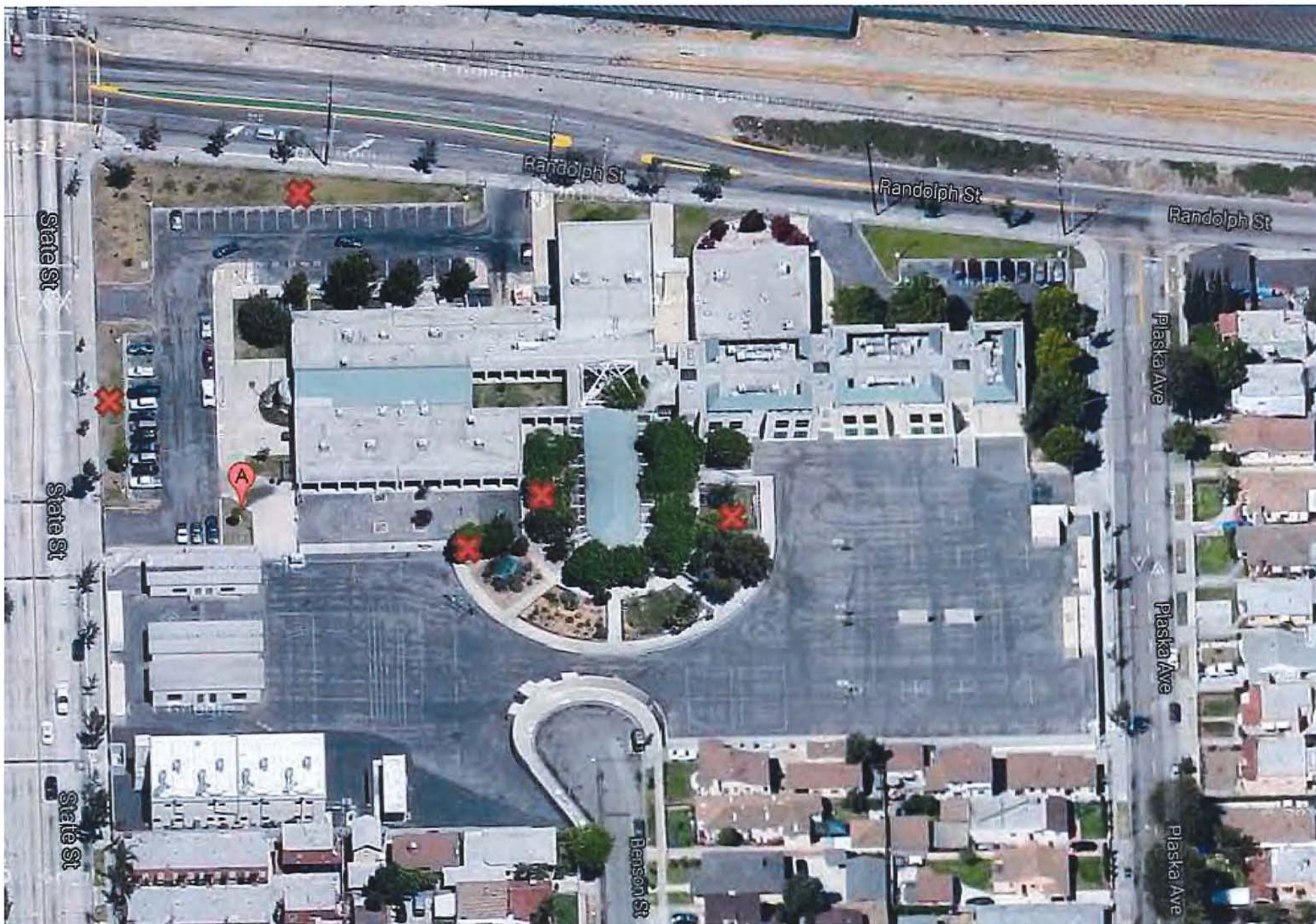
Head Start Pre-School  
Location

S. DITMAN AVE.

● Designates sample locations

SAMPLE LOCATIONS  
FOR  
NORTHERN SCHOOL





SAMPLE LOCATIONS  
FOR  
SOUTHERN SCHOOL



## **APPENDIX C**

### **Sample Results and Laboratory Data Packages**



## TABLES

Table C-1	Background Area 0-1" Sample Results
Table C-2	Background Area 1-3" Sample Results
Table C-3	Background Area 3-6" Sample Results
Table C-4	Northern Assessment Area 0-1" Sample Results
Table C-5	Northern Assessment Area 1-3" Sample Results
Table C-6	Northern Assessment Area 3-6" Sample Results
Table C-7	Southern Assessment Area 0-1" Sample Results
Table C-8	Southern Assessment Area 1-3" Sample Results
Table C-9	Southern Assessment Area 3-6" Sample Results
Table C-10	Northern and Southern Schools Sample Results
Table C-11	Dioxin Furan Sample Results



TABLE C-1  
EXIDE VERNON  
Off-Site Soil Sampling  
Background Area 0-1" Sample Results

Sample Location		SS-BG-01-1				SS-BG-02-1				SS-BG-03-1				SS-BG-04-1				SS-BG-05-1				SS-BG-06-1				SS-BG-07-1				SS-BG-08-1				SS-BG-09-1				SS-BG-10-1				SS-BG-11-1				SS-BG-12-1			
Lab ID		13-11-1195-1				13-11-1195-4				13-11-1195-7				13-11-1195-10				13-11-1195-13				13-11-1195-16				13-11-1340-1 / 13-11-1340-22				13-11-1340-4 / 13-11-1340-24				13-11-1340-7 / 13-11-1340-26				13-11-1340-10 / 13-11-1340-28				13-11-1340-16				13-11-1340-19			
Sample Date		11/14/2013				11/14/2013				11/14/2013				11/14/2013				11/14/2013				11/14/2013				11/15/2013				11/15/2013				11/15/2013				11/15/2013				11/15/2013				11/15/2013			
Matrix		Soil				Soil				Soil				Soil				Soil				Soil				Soil				Soil				Soil				Soil				Soil				Soil			
Remarks		0-1"				0-1"				0-1"				0-1"				0-1"				0-1"				0-1"				0-1"				0-1"				0-1"				0-1"				0-1"			
Parameter	Units	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL									
Semivolatiles																																																	
1-Methylnaphthalene	mg/kg		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02		U	0.04		U	0.04		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02						
2-Methylnaphthalene	mg/kg		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02		U	0.04		U	0.04		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02						
Acenaphthene	mg/kg		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04	0.025		0.02		U	0.04		U	0.04		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02						
Acenaphthylene	mg/kg		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02		U	0.04		U	0.04		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02						
Anthracene	mg/kg		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02		U	0.04		U	0.04		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02						
Benzo (a) Anthracene	mg/kg	0.061		0.04	0.04		0.02	0.038		0.02	0.066		0.02	0.09		0.04	0.035		0.02		U	0.04		U	0.04	0.035		0.02	0.041		0.02		U	0.02		U	0.02		U	0.02		U	0.02						
Benzo (a) Pyrene	mg/kg	0.086		0.04	0.053		0.02	0.048		0.02	0.098		0.02	0.12		0.04	0.048		0.02		U	0.04	0.045		0.04	0.051		0.02	0.055		0.02	0.022		0.02	0.021		0.02		U	0.02		U	0.02						
Benzo (b) Fluoranthene	mg/kg	0.1		0.04	0.043		0.02	0.065		0.02	0.075		0.02	0.11		0.04	0.056		0.02		U	0.04	0.045		0.04	0.053		0.02	0.044		0.02	0.021		0.02		U	0.02		U	0.02		U	0.02						
Benzo (g,h,i) Perylene	mg/kg	0.1		0.04	0.047		0.02	0.049		0.02	0.086		0.02	0.13		0.04	0.056		0.02	0.045		0.04	0.056		0.04	0.058		0.02	0.056		0.02	0.021		0.02	0.026		0.02		U	0.02		U	0.02						
Benzo (k) Fluoranthene	mg/kg	0.062		0.04	0.036		0.02	0.04		0.02	0.06		0.02	0.096		0.04	0.03		0.02		U	0.04		U	0.04	0.033		0.02	0.033		0.02		U	0.02		U	0.02		U	0.02		U	0.02						
Chrysene	mg/kg	0.13		0.04	0.069		0.02	0.11		0.02	0.11		0.02	0.17		0.04	0.068		0.02	0.049		0.04	0.066		0.04	0.063		0.02	0.067		0.02	0.031		0.02	0.028		0.02		U	0.02		U	0.02						
Dibenz (a,h) Anthracene	mg/kg		U	0.04		U	0.02		U	0.02	0.03		0.02	0.045		0.04		U	0.02		U	0.04		U	0.04		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02						
Fluoranthene	mg/kg	0.14		0.04	0.064		0.02	0.17		0.02	0.091		0.02	0.17		0.04	0.055		0.02		U	0.04		U	0.04	0.05		0.02	0.051		0.02		U	0.02		U	0.02		U	0.02		U	0.02						
Fluorene	mg/kg		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02		U	0.04		U	0.04		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02						
Indeno (1,2,3-c,d) Pyrene	mg/kg	0.062		0.04	0.031		0.02	0.031		0.02	0.055		0.02	0.084		0.04	0.032		0.02		U	0.04		U	0.04	0.035		0.02	0.034		0.02		U	0.02		U	0.02		U	0.02		U	0.02						
Naphthalene	mg/kg		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02		U	0.04		U	0.04		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02						
Phenanthrene	mg/kg	0.067		0.04	0.042		0.02	0.095		0.02	0.04		0.02	0.088		0.04	0.028		0.02		U	0.04		U	0.04	0.022		0.02	0.023		0.02		U	0.02		U	0.02		U	0.02		U	0.02						
Pyrene	mg/kg	0.11		0.04	0.073		0.02	0.14		0.02	0.11		0.02	0.18		0.04	0.065		0.02	0.043		0.04	0.053		0.04	0.058		0.02	0.064		0.02	0.023		0.02	0.028		0.02		U	0.02		U	0.02						
PCBs																																																	
Aroclor-1016	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50						
Aroclor-1221	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50						
Aroclor-1232	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50						
Aroclor-1242	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50						
Aroclor-1248	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50						
Aroclor-1254	ug/kg		U	50		U	50		U	50	100		50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50						
Aroclor-1260	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50	68		50		U	50		U	50		U	50		U	50						
Aroclor-1262	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50						
Total Metals																																																	
Antimony	mg/kg		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2						
Arsenic	mg/kg	3.64		1	2.92		1	2.35		1	5.92		1	3.51		1	4.25		1	5.29		1	7.48		1	4.22		1	3.42		1	8.68		1	2.56		1		U	1		U	1						
Cadmium	mg/kg	1.39		1		U	1		U	1		U	1	1.11		1		U	1		U	1	3.32		1		U	1		U	1		U	1		U	1		U	1		U	1						
Chromium	mg/kg	20.3		2	18.7		2	21.1		2	25.4		2	23.4		2	21.5		2	24.3		2	138		2	19.5		2	19.5		2	19.3		2	20.4		2		U	2		U	2						
Lead	mg/kg	61.7		1	54.2		1	58.1		1	68.7		1	121		1	54.8		1	43.9		1	132		1	81.1		1	48.3		1	97.5		1	35.8		1		U	1		U	1						
Sieved Metals																																																	
Antimony	mg/kg		NA			NA			NA			NA			NA			NA			U	2		U	2		U	2		U	2		NA																

TABLE C-1  
EXIDE VERNON  
Off-Site Soil Sampling  
Background Area 0-1" Sample Results

Sample Location		SS-BG-13-1			SS-BG-14-1			SS-BG-15-1			SS-BG-16-1			SS-BG-17-1			SS-BG-18-1			SS-BG-19-1			SS-BG-20-1		
Lab ID		13-11-1369-1			13-11-1369-4			13-11-1369-7			13-11-1369-10			13-11-1369-13			13-11-1369-16			13-11-1369-19			13-11-1340-13		
Sample Date		11/16/2013			11/16/2013			11/16/2013			11/16/2013			11/16/2013			11/16/2013			11/16/2013			11/15/2013		
Matrix		Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil		
Remarks		0-1"			0-1"			0-1"			0-1"			0-1"			0-1"			0-1"			0-1"		
Parameter	Units	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL
Semivolatiles																									
1-Methylnaphthalene	mg/kg		U	0.02		UJ	0.02		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04
2-Methylnaphthalene	mg/kg		U	0.02		UJ	0.02		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04
Acenaphthene	mg/kg		U	0.02		UJ	0.02		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04
Acenaphthylene	mg/kg		U	0.02		UJ	0.02		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04
Anthracene	mg/kg		U	0.02		UJ	0.02		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04
Benzo (a) Anthracene	mg/kg	0.027		0.02	0.03	J	0.02	0.029		0.02	0.13		0.04	0.037		0.02	0.02		0.02	0.021		0.02	0.05		0.04
Benzo (a) Pyrene	mg/kg	0.048		0.02	0.048	J	0.02	0.037		0.02	0.19		0.04	0.05		0.02	0.026		0.02	0.026		0.02	0.068		0.04
Benzo (b) Fluoranthene	mg/kg	0.038		0.02	0.035	J	0.02	0.039		0.02	0.17		0.04	0.049		0.02	0.026		0.02	0.022		0.02	0.069		0.04
Benzo (g,h,i) Perylene	mg/kg	0.043		0.02	0.051	J	0.02	0.041		0.02	0.19		0.04	0.042		0.02	0.023		0.02	0.026		0.02	0.077		0.04
Benzo (k) Fluoranthene	mg/kg	0.034		0.02	0.027	J	0.02		U	0.02	0.12		0.04	0.028		0.02		U	0.02		U	0.02	0.045		0.04
Chrysene	mg/kg	0.047		0.02	0.049	J	0.02	0.053		0.02	0.22		0.04	0.065		0.02	0.038		0.02	0.036		0.02	0.1		0.04
Dibenz (a,h) Anthracene	mg/kg		U	0.02		UJ	0.02		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04
Fluoranthene	mg/kg	0.041		0.02	0.068	J	0.02	0.036		0.02	0.21		0.04	0.053		0.02	0.025		0.02	0.025		0.02	0.059		0.04
Fluorene	mg/kg		U	0.02		UJ	0.02		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04
Indeno (1,2,3-c,d) Pyrene	mg/kg	0.027		0.02	0.04	J	0.02	0.023		0.02	0.11		0.04	0.026		0.02		U	0.02		U	0.02	0.045		0.04
Naphthalene	mg/kg		U	0.02	0.15	J	0.02		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04
Phenanthrene	mg/kg		U	0.02	0.061	J	0.02	0.021		0.02	0.067		0.04	0.024		0.02		U	0.02		U	0.02	0.041		0.04
Pyrene	mg/kg	0.079		0.02	0.08	J	0.02	0.049		0.02	0.3		0.04	0.074		0.02	0.031		0.02	0.03		0.02	0.079		0.04
PCBs																									
Aroclor-1016	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1221	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1232	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1242	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1248	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1254	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1260	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1262	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Total Metals																									
Antimony	mg/kg		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2
Arsenic	mg/kg	2.82		1	3.67		1	2.87		1	3.75		1	2.37		1	6.89		1	3.83		1	7.72		1
Cadmium	mg/kg		U	1		U	1		U	1		U	1		U	1		U	1		U	1	3.5		1
Chromium	mg/kg	15.3		2	20.6		2	15.4		2	19		2	15.5		2	19.7		2	19.5		2	146		2
Lead	mg/kg	34.8		1	58.6		1	43.5		1	88.2		1	51.1		1	38		1	29.4		1	138		1
Sieved Metals																									
Antimony	mg/kg		NA			NA			NA			NA			NA			NA			NA			NA	
Arsenic	mg/kg		NA			NA			NA			NA			NA			NA			NA			NA	
Cadmium	mg/kg		NA			NA			NA			NA			NA			NA			NA			NA	
Chromium	mg/kg		NA			NA			NA			NA			NA			NA			NA			NA	
Lead	mg/kg		NA			NA			NA			NA			NA			NA			NA			NA	





TABLE C-2  
EXIDE VERNON  
Off-Site Soil Sampling  
Background Area 1-3" Sample Results

Sample Location		SS-BG-13-3			SS-BG-14-3			SS-BG-15-3			SS-BG-16-3			SS-BG-17-3			SS-BG-18-3			SS-BG-19-3			SS-BG-20-3		
Lab ID		13-11-1369-2			13-11-1369-5			13-11-1369-8			13-11-1369-11			13-11-1369-14			13-11-1369-17			13-11-1369-20			13-11-1340-14		
Sample Date		11/16/2013			11/16/2013			11/16/2013			11/16/2013			11/16/2013			11/16/2013			11/16/2013			11/15/2013		
Matrix		Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil		
Remarks		1-3"			1-3"			1-3"			1-3"			1-3"			1-3"			1-3"			1-3"		
Parameter	Units	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL
Semivolatiles																									
1-Methylnaphthalene	mg/kg		U	0.02		UJ	0.02		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.02
2-Methylnaphthalene	mg/kg		U	0.02		UJ	0.02		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.02
Acenaphthene	mg/kg		U	0.02		UJ	0.02		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.02
Acenaphthylene	mg/kg		U	0.02		UJ	0.02		U	0.02		U	0.04		U	0.02		U	0.02	0.096		0.02		U	0.02
Anthracene	mg/kg		U	0.02		UJ	0.02		U	0.02		U	0.04		U	0.02		U	0.02	0.16		0.02		U	0.02
Benzo (a) Anthracene	mg/kg	0.033		0.02	0.04	J	0.02	0.035		0.02	0.074		0.04	0.032		0.02	0.025		0.02	0.028		0.02	0.045		0.02
Benzo (a) Pyrene	mg/kg	0.064		0.02	0.064	J	0.02	0.047		0.02	0.086		0.04	0.041		0.02	0.032		0.02	0.059		0.02	0.054		0.02
Benzo (b) Fluoranthene	mg/kg	0.076		0.02	0.043	J	0.02	0.051		0.02	0.081		0.04	0.041		0.02	0.029		0.02	0.044		0.02	0.056		0.02
Benzo (g,h,i) Perylene	mg/kg	0.055		0.02	0.063	J	0.02	0.047		0.02	0.079		0.04	0.031		0.02	0.026		0.02	0.19		0.02	0.055		0.02
Benzo (k) Fluoranthene	mg/kg	0.044		0.02	0.036	J	0.02	0.026		0.02	0.058		0.04		U	0.02		U	0.02		U	0.02	0.031		0.02
Chrysene	mg/kg	0.081		0.02	0.066	J	0.02	0.065		0.02	0.12		0.04	0.056		0.02	0.047		0.02	0.046		0.02	0.089		0.02
Dibenz (a,h) Anthracene	mg/kg		U	0.02	0.021	J	0.02		U	0.02		U	0.04		U	0.02		U	0.02	0.034		0.02	0.022		0.02
Fluoranthene	mg/kg	0.1		0.02	0.061	J	0.02	0.067		0.02	0.1		0.04	0.036		0.02	0.031		0.02	0.021		0.02	0.04		0.02
Fluorene	mg/kg		U	0.02		UJ	0.02		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.02
Indeno (1,2,3-c,d) Pyrene	mg/kg	0.038		0.02	0.051	J	0.02	0.027		0.02	0.046		0.04		U	0.02		U	0.02	0.094		0.02	0.035		0.02
Naphthalene	mg/kg		U	0.02	0.027	J	0.02		U	0.02		U	0.04	0.021		0.02	0.021		0.02		U	0.02		U	0.02
Phenanthrene	mg/kg	0.058		0.02	0.028	J	0.02	0.032		0.02	0.047		0.04	0.024		0.02		U	0.02		U	0.02	0.038		0.02
Pyrene	mg/kg	0.15		0.02	0.074	J	0.02	0.081		0.02	0.14		0.04	0.051		0.02	0.044		0.02	0.024		0.02	0.061		0.02
PCBs																									
Aroclor-1016	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1221	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1232	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1242	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1248	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1254	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1260	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1262	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Total Metals																									
Antimony	mg/kg		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2
Arsenic	mg/kg	2.85		1	3.41		1	3.18		1	4.3		1	3.18		1	7.79		1	4.43		1	10.9		1
Cadmium	mg/kg		U	1		U	1		U	1		U	1		U	1		U	1		U	1	3.5		1
Chromium	mg/kg	14.6		2	20		2	17.2		2	19.7		2	17.8		2	21.2		2	19.9		2	221		2
Lead	mg/kg	41.6		1	58.9		1	54.2		1	82.9		1	54.9		1	64.6		1	31.5		1	164		1
Sieved Metals																									
Antimony	mg/kg		NA			NA			NA			NA			NA			NA			NA			NA	
Arsenic	mg/kg		NA			NA			NA			NA			NA			NA			NA			NA	
Cadmium	mg/kg		NA			NA			NA			NA			NA			NA			NA			NA	
Chromium	mg/kg		NA			NA			NA			NA			NA			NA			NA			NA	
Lead	mg/kg		NA			NA			NA			NA			NA			NA			NA			NA	

TABLE C-3  
EXIDE VERNON  
Off-Site Soil Sampling

5 of 5

Background Area 3-6" Sample Results

Sample Location		SS-BG-01-6			SS-BG-02-6			SS-BG-03-6			SS-BG-04-6		
Lab ID		13-11-1195-3			13-11-1195-6			13-11-1195-9			13-11-1195-12		
Sample Date		11/14/2013			11/14/2013			11/14/2013			11/14/2013		
Matrix		Soil			Soil			Soil			Soil		
Remarks		3-6"			3-6"			3-6"			3-6"		
Parameter	Units	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL
Total Metals													
Lead	mg/kg	28.8		1	44.8		1	96.4		1	66.5		1

Sample Location		SS-BG-05-6			SS-BG-06-6			SS-BG-07-6			SS-BG-08-6		
Lab ID		13-11-1195-15			13-11-1195-18			13-11-1340-3			13-11-1340-6		
Sample Date		11/14/2013			11/14/2013			11/15/2013			11/15/2013		
Matrix		Soil			Soil			Soil			Soil		
Remarks		3-6"			3-6"			3-6"			3-6"		
Parameter	Units	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL
Total Metals													
Lead	mg/kg	72		1	64.1		1	55.3		1	70.8		1

Sample Location		SS-BG-09-6			SS-BG-10-6			SS-BG-11-6			SS-BG-12-6		
Lab ID		13-11-1340-9			13-11-1340-12			13-11-1340-18			13-11-1340-21		
Sample Date		11/15/2013			11/15/2013			11/15/2013			11/15/2013		
Matrix		Soil			Soil			Soil			Soil		
Remarks		3-6"			3-6"			3-6"			3-6"		
Parameter	Units	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL
Total Metals													
Lead	mg/kg	62.8		1	36.1		1	106		1	43.1		1

Sample Location		SS-BG-13-6			SS-BG-14-6			SS-BG-15-6			SS-BG-16-6		
Lab ID		13-11-1369-3			13-11-1369-6			13-11-1369-9			13-11-1369-12		
Sample Date		11/16/2013			11/16/2013			11/16/2013			11/16/2013		
Matrix		Soil			Soil			Soil			Soil		
Remarks		3-6"			3-6"			3-6"			3-6"		
Parameter	Units	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL
Total Metals													
Lead	mg/kg	38.1		1	53.1		1	36.8		1	114		1

Sample Location		SS-BG-17-6			SS-BG-18-6			SS-BG-19-6		
Lab ID		13-11-1369-15			13-11-1369-18			13-11-1369-21		
Sample Date		11/16/2013			11/16/2013			11/16/2013		
Matrix		Soil			Soil			Soil		
Remarks		3-6"			3-6"			3-6"		
Parameter	Units	Result	Q	RL	Result	Q	RL	Result	Q	RL
Total Metals										
Lead	mg/kg	58.9		1	37.4		1	40.1		1

TABLE C-4  
EXIDE VERNON  
Off-Site Soil Sampling  
Northern Assessment Area 0-1" Sample Results

Sample Location		SS-MEIR-N-01-1			SS-MEIR-N-02-1			SS-MEIR-N-03-1			SS-MEIR-N-04-1			SS-MEIR-N-05-1			SS-MEIR-N-06-1			SS-MEIR-N-07-1			SS-MEIR-N-08-1			SS-MEIR-N-09-1			SS-MEIR-N-10-1			SS-MEIR-N-11-1			SS-MEIR-N-12-1		
Lab ID		13-11-1432-1			13-11-1432-4			13-11-1432-7			13-11-1432-10 / 13-11-1432-26			13-11-1432-13			13-11-1432-17			13-11-1432-20			13-11-1432-23 / 13-11-1432-28			13-11-1506-1 / 13-11-1506-22			13-11-1506-4			13-11-1506-7 / 13-11-1506-24			13-11-1506-10		
Sample Date		11/18/2013			11/18/2013			11/18/2013			11/18/2013			11/18/2013			11/18/2013			11/18/2013			11/18/2013			11/19/2013			11/19/2013			11/19/2013			11/19/2013		
Matrix		Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil		
Remarks		0-1"			0-1"			0-1"			0-1"			0-1"			0-1"			0-1"			0-1"			0-1"			0-1"			0-1"			0-1"		
Parameter	Units	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL
Semivolatiles																																					
1-Methylnaphthalene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04		U	0.04		U	0.04		U	0.08		U	0.02
2-Methylnaphthalene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04		U	0.04		U	0.04		U	0.08		U	0.02
Acenaphthene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04		U	0.04		U	0.04		U	0.08		U	0.02
Acenaphthylene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04		U	0.04		U	0.04		U	0.08		U	0.02
Anthracene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04		U	0.04		U	0.04		U	0.08		U	0.02
Benzo (a) Anthracene	mg/kg	0.024		0.02		U	0.02	0.03		0.02		U	0.04	0.021		0.02		U	0.02	0.026		0.02		U	0.04		U	0.04		U	0.04		U	0.08		U	0.02
Benzo (a) Pyrene	mg/kg	0.037		0.02		U	0.02	0.036		0.02		U	0.04	0.029		0.02		U	0.02	0.034		0.02		U	0.04		U	0.04		U	0.04		U	0.08		U	0.02
Benzo (b) Fluoranthene	mg/kg	0.04		0.02		U	0.02	0.025		0.02		U	0.04	0.044		0.02		U	0.02	0.039		0.02		U	0.04		U	0.04		U	0.04		U	0.08		U	0.02
Benzo (g,h,i) Perylene	mg/kg	0.041		0.02		U	0.02	0.029		0.02	0.041		0.04	0.033		0.02		U	0.02	0.028		0.02		U	0.04	0.062		0.04		U	0.04	0.089		0.08		U	0.02
Benzo (k) Fluoranthene	mg/kg	0.026		0.02		U	0.02	0.022		0.02		U	0.04	0.024		0.02		U	0.02	0.03		0.02		U	0.04		U	0.04		U	0.04		U	0.08		U	0.02
Chrysene	mg/kg	0.043		0.02		U	0.02	0.041		0.02	0.043		0.04	0.046		0.02	0.024		0.02	0.048		0.02		U	0.04	0.043		0.04		U	0.04		U	0.08		U	0.02
Dibenz (a,h) Anthracene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04		U	0.04		U	0.04		U	0.08		U	0.02
Fluoranthene	mg/kg	0.051		0.02		U	0.02	0.045		0.02	0.044		0.04	0.047		0.02	0.023		0.02	0.054		0.02		U	0.04	0.046		0.04	0.05		0.04		U	0.08		U	0.02
Fluorene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04		U	0.04		U	0.04		U	0.08		U	0.02
Indeno (1,2,3-c,d) Pyrene	mg/kg	0.026		0.02		U	0.02	0.021		0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04		U	0.04		U	0.04		U	0.08		U	0.02
Naphthalene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04		U	0.04		U	0.04	0.16		0.08		U	0.02
Phenanthrene	mg/kg	0.027		0.02		U	0.02		U	0.02		U	0.04	0.028		0.02		U	0.02	0.031		0.02		U	0.04		U	0.04		U	0.04		U	0.08		U	0.02
Pyrene	mg/kg	0.055		0.02		U	0.02	0.052		0.02	0.048		0.04	0.051		0.02	0.024		0.02	0.057		0.02		U	0.04	0.047		0.04	0.044		0.04		U	0.08		U	0.02
PCBs																																					
Aroclor-1016	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1221	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1232	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1242	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1248	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1254	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1260	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1262	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Total Metals																																					
Antimony	mg/kg		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2
Arsenic	mg/kg	2.88		1	1.72		1	3.97		1	2.55		1	3.35		1	2.68		1	3.49		1	3.22		1	3.3		1	1.91		1	1.39		1	1.87		1
Cadmium	mg/kg	1.74		1		U	1	1.44		1	1.11		1	1.98		1	1.19		1	1.09		1	1.55		1	1.66		1	1.1		1	1.06		1		U	1
Chromium	mg/kg	18.8		2	13.5		2	24.1		2	16.3		2	29.5		2	22.9		2	14.9		2	20.8		2	21.9		2	17		2	13.1		2	15		2
Lead	mg/kg	228		1	81.8		1	144		1	164		1	156		1	116		1	202		1	248		1	163		1	224		1	162		1	132		1
Sieved Metals																																					
Antimony	mg/kg		NA			NA			NA			U	2		NA			NA			NA		2.25		2		U	2		NA			U	2		NA	
Arsenic	mg/kg		NA			NA			NA		3.23		1		NA			NA			NA		3.12		1	3.46		1		NA		1.63		1		NA	
Cadmium	mg/kg		NA			NA			NA		1.55		1		NA			NA			NA		1.43		1	1.68		1		NA		1.12		1		NA	
Chromium	mg/kg		NA			NA			NA		20.1		2		NA			NA			NA		26		2	24.9		2		NA		18.6		2		NA	
Lead	mg/kg		NA			NA			NA		338		1		NA			NA			NA		257		1	202		1		NA		149		1		NA	
Other Metals																																					
Hexavalent Chromium	ug/Kg		UJ	2000		NA			UJ	2000		NA			UJ	2000		UJ																			

TABLE C-4  
EXIDE VERNON  
Off-Site Soil Sampling  
Northern Assessment Area 0-1" Sample Results

Sample Location		SS-MEIR-N-13-1			SS-MEIR-N-14-1			SS-MEIR-N-15-1			SS-MEIR-N-16-1			SS-MEIR-N-17-1			SS-MEIR-N-18-1			SS-MEIR-N-19-1			SS-MEIR-N-20-1		
Lab ID		13-11-1506-13			13-11-1506-15			13-11-1506-18			13-11-1642-20			13-11-1642-26			13-11-1642-29			13-11-1642-32			13-11-1642-23		
Sample Date		11/19/2013			11/19/2013			11/19/2013			11/20/2013			11/20/2013			11/20/2013			11/20/2013			11/20/2013		
Matrix		Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil		
Remarks		0-1"			0-1"			0-1"			0-1"			0-1"			0-1"			0-1"			0-1"		
Parameter	Units	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL
Semivolatiles																									
1-Methylnaphthalene	mg/kg		U	0.04		U	0.04		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04
2-Methylnaphthalene	mg/kg		U	0.04		U	0.04		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04
Acenaphthene	mg/kg		U	0.04		U	0.04		U	0.02		U	0.04		U	0.02	0.067		0.02		U	0.02		U	0.04
Acenaphthylene	mg/kg		U	0.04		U	0.04		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04
Anthracene	mg/kg		U	0.04		U	0.04		U	0.02		U	0.04		U	0.02	0.038		0.02		U	0.02		U	0.04
Benzo (a) Anthracene	mg/kg		U	0.04		U	0.04		U	0.02		U	0.04		U	0.02	0.1		0.02		U	0.02		U	0.04
Benzo (a) Pyrene	mg/kg		U	0.04		U	0.04		U	0.02		U	0.04		U	0.02	0.18		0.02	0.024		0.02		U	0.04
Benzo (b) Fluoranthene	mg/kg		U	0.04		U	0.04		U	0.02		U	0.04		U	0.02	0.16		0.02	0.027		0.02		U	0.04
Benzo (g,h,i) Perylene	mg/kg		U	0.04	0.058		0.04		U	0.02		U	0.04		U	0.02	0.2		0.02	0.032		0.02		U	0.04
Benzo (k) Fluoranthene	mg/kg		U	0.04		U	0.04		U	0.02		U	0.04		U	0.02	0.11		0.02		U	0.02		U	0.04
Chrysene	mg/kg		U	0.04		U	0.04		U	0.02		U	0.04		U	0.02	0.15		0.02	0.029		0.02		U	0.04
Dibenz (a,h) Anthracene	mg/kg		U	0.04		U	0.04		U	0.02		U	0.04		U	0.02	0.027		0.02		U	0.02		U	0.04
Fluoranthene	mg/kg		U	0.04		U	0.04		U	0.02		U	0.04		U	0.02	0.42		0.02	0.032		0.02		U	0.04
Fluorene	mg/kg		U	0.04		U	0.04		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04
Indeno (1,2,3-c,d) Pyrene	mg/kg		U	0.04		U	0.04		U	0.02		U	0.04		U	0.02	0.19		0.02	0.025		0.02		U	0.04
Naphthalene	mg/kg		U	0.04		U	0.04		U	0.02		U	0.04	0.1		0.02	0.067		0.02		U	0.02		U	0.04
Phenanthrene	mg/kg		U	0.04		U	0.04		U	0.02		U	0.04		U	0.02	0.3		0.02		U	0.02		U	0.04
Pyrene	mg/kg		U	0.04		U	0.04		U	0.02		U	0.04		U	0.02	0.41		0.02	0.031		0.02		U	0.04
PCBs																									
Aroclor-1016	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1221	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1232	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1242	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1248	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1254	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1260	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1262	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Total Metals																									
Antimony	mg/kg		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2
Arsenic	mg/kg	2.32		1	2.93		1	3.13		1	5.27		1	3.27		1	9.32		1	3.98		1	5.85		1
Cadmium	mg/kg	1.16		1	1.91		1	1.1		1	2.42		1	1.61		1		U	1	1.56		1	2.41		1
Chromium	mg/kg	17.4		2	19.5		2	19.9		2	24.3		2	17.4		2	17.6		2	21.5		2	24.1		2
Lead	mg/kg	146		1	342		1	62.5		1	323		1	137		1	114		1	179		1	339		1
Sieved Metals																									
Antimony	mg/kg		NA			NA			NA			NA			NA			NA			NA			NA	
Arsenic	mg/kg		NA			NA			NA			NA			NA			NA			NA			NA	
Cadmium	mg/kg		NA			NA			NA			NA			NA			NA			NA			NA	
Chromium	mg/kg		NA			NA			NA			NA			NA			NA			NA			NA	
Lead	mg/kg		NA			NA			NA			NA			NA			NA			NA			NA	
Other Metals																									
Hexavalent Chromium	ug/Kg		NA			UJ	2000		UJ	2000		UJ	2000		NA			NA			UJ	2000		NA	

TABLE C-5  
EXIDE VERNON  
Off-Site Soil Sampling  
Northern Assessment Area 1-3" Sample Results

Sample Location		SS-MEIR-N-01-3				SS-MEIR-N-02-3			SS-MEIR-N-03-3			SS-MEIR-N-04-3				SS-MEIR-N-05-3			SS-MEIR-N-06-3			SS-MEIR-N-07-3			SS-MEIR-N-08-3				SS-MEIR-N-09-3				SS-MEIR-N-10-3			SS-MEIR-N-11-3			SS-MEIR-N-12-3		
Lab ID		13-11-1432-2				13-11-1432-5			13-11-1432-8			13-11-1432-11 / 13-11-1432-27				13-11-1432-14			13-11-1432-18			13-11-1432-21			13-11-1432-24 / 13-11-1432-29				13-11-1506-2 / 13-11-1506-23				13-11-1506-5			13-11-1506-8 / 13-11-1506-25			13-11-1506-11		
Sample Date		11/18/2013				11/18/2013			11/18/2013			11/18/2013				11/18/2013			11/18/2013			11/18/2013			11/18/2013				11/19/2013				11/19/2013			11/19/2013			11/19/2013		
Matrix		Soil				Soil			Soil			Soil				Soil			Soil			Soil			Soil				Soil				Soil			Soil			Soil		
Remarks		1-3"				1-3"			1-3"			1-3"				1-3"			1-3"			1-3"			1-3"				1-3"				1-3"			1-3"			1-3"		
Parameter	Units	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL				
Semivolatiles																																									
1-Methylnaphthalene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02		U	0.04		U	0.04		U	0.04		U	0.04		U	0.02				
2-Methylnaphthalene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02		U	0.04		U	0.04		U	0.04		U	0.04		U	0.02				
Acenaphthene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02		U	0.04		U	0.04		U	0.04		U	0.04		U	0.02				
Acenaphthylene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02		U	0.04		U	0.04		U	0.04		U	0.04		U	0.02				
Anthracene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02		U	0.04		U	0.04		U	0.04		U	0.04		U	0.02				
Benzo (a) Anthracene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02	0.029		0.02		U	0.04	0.029		0.02		U	0.04	0.042		0.04		U	0.04		U	0.04		U	0.02				
Benzo (a) Pyrene	mg/kg	0.026		0.02		U	0.02		U	0.02	0.025		0.02	0.04		0.02		U	0.04	0.044		0.02		U	0.04	0.053		0.04		U	0.04		U	0.04		U	0.02				
Benzo (b) Fluoranthene	mg/kg	0.026		0.02		U	0.02		U	0.02	0.031		0.02	0.049		0.02		U	0.04	0.05		0.02		U	0.04	0.069		0.04		U	0.04	0.052		0.04		U	0.02				
Benzo (g,h,i) Perylene	mg/kg	0.028		0.02		U	0.02		U	0.02	0.028		0.02	0.041		0.02		U	0.04	0.037		0.02		U	0.04	0.087		0.04		U	0.04	0.054		0.04		U	0.02				
Benzo (k) Fluoranthene	mg/kg	0.024		0.02		U	0.02		U	0.02		U	0.02	0.032		0.02		U	0.04	0.036		0.02		U	0.04	0.045		0.04		U	0.04		U	0.04		U	0.02				
Chrysene	mg/kg	0.033		0.02		U	0.02	0.021		0.02	0.032		0.02	0.058		0.02		U	0.04	0.058		0.02		U	0.04	0.082		0.04		U	0.04	0.048		0.04		U	0.02				
Dibenz (a,h) Anthracene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02		U	0.04		U	0.04		U	0.04		U	0.04		U	0.02				
Fluoranthene	mg/kg	0.035		0.02		U	0.02	0.022		0.02	0.034		0.02	0.063		0.02		U	0.04	0.059		0.02		U	0.04	0.11		0.04		U	0.04	0.053		0.04		U	0.02				
Fluorene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02		U	0.04		U	0.04		U	0.04		U	0.04		U	0.02				
Indeno (1,2,3-c,d) Pyrene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02	0.025		0.02		U	0.04	0.027		0.02		U	0.04	0.056		0.04		U	0.04		U	0.04		U	0.02				
Naphthalene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02		U	0.04		U	0.04		U	0.04		U	0.04		U	0.02				
Phenanthrene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02	0.04		0.02		U	0.04	0.027		0.02		U	0.04	0.066		0.04		U	0.04		U	0.04		U	0.02				
Pyrene	mg/kg	0.037		0.02		U	0.02	0.024		0.02	0.035		0.02	0.069		0.02		U	0.04	0.064		0.02		U	0.04	0.11		0.04		U	0.04	0.05		0.04		U	0.02				
PCBs																																									
Aroclor-1016	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50				
Aroclor-1221	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50				
Aroclor-1232	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50				
Aroclor-1242	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50				
Aroclor-1248	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50				
Aroclor-1254	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50				
Aroclor-1260	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50				
Aroclor-1262	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50				
Total Metals																																									
Antimony	mg/kg		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2				
Arsenic	mg/kg	3.23		1	2.14		1	4.82		1	3.06		1	3.78		1	2.96		1	3.96		1	3.13		1	3.5		1	2.41		1	2.34		1	2.19		1				
Cadmium	mg/kg	1.77		1	1.11		1	1.43		1	1.41		1	2.26		1	1.3		1	1.2		1	1.54		1	1.77		1	1.36		U	1		U	1						
Chromium	mg/kg	19.2		2	13.4		2	23.7		2	18.2		2	31.5		2	27.2		2	17.4		2	18.5		2	25.2		2	19.2		2	16.8		2	16.4		2				
Lead	mg/kg	208		1	107		1	177		1	330		1	175		1	141		1	257		1	224		1	201		1	251		1	133		1	129		1				
Sieved Metals																																									
Antimony	mg/kg		NA			NA			NA			U	2		NA			NA			NA			U	2		U	2		NA			U	2		NA					
Arsenic	mg/kg		NA			NA			NA		2.87		1		NA			NA			NA			3.1		1	3.43		1		NA		2.45		1		NA				
Cadmium	mg/kg		NA			NA			NA		1.56		1		NA			NA			NA			1.53		1	1.99		1		NA			U	1		NA				
Chromium	mg/kg		NA			NA			NA		20.4		2		NA			NA			NA			NA		2	28.1		2		NA		20		2		NA				
Lead	mg/kg		NA			NA			NA		243		1		NA			NA			NA			NA		1	240		1		NA		171		1		NA				

TABLE C-5  
EXIDE VERNON  
Off-Site Soil Sampling  
Northern Assessment Area 1-3" Sample Results

Sample Location		SS-MEIR-N-13-3			SS-MEIR-N-14-3			SS-MEIR-N-15-3			SS-MEIR-N-16-3			SS-MEIR-N-17-3			SS-MEIR-N-18-3			SS-MEIR-N-19-3			SS-MEIR-N-20-3		
Lab ID		13-11-1506-14			13-11-1506-16			13-11-1506-19			13-11-1642-21			13-11-1642-27			13-11-1642-30			13-11-1642-33			13-11-1642-24		
Sample Date		11/19/2013			11/19/2013			11/19/2013			11/20/2013			11/20/2013			11/20/2013			11/20/2013			11/20/2013		
Matrix		Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil		
Remarks		1-3"			1-3"			1-3"			1-3"			1-3"			1-3"			1-3"			1-3"		
Parameter	Units	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL
Semivolatiles																									
1-Methylnaphthalene	mg/kg		U	0.02		U	0.04		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04
2-Methylnaphthalene	mg/kg		U	0.02		U	0.04		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04
Acenaphthene	mg/kg		U	0.02		U	0.04		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04
Acenaphthylene	mg/kg		U	0.02		U	0.04		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04
Anthracene	mg/kg		U	0.02		U	0.04		U	0.02		U	0.04		U	0.02	0.03		0.02		U	0.02		U	0.04
Benzo (a) Anthracene	mg/kg		U	0.02		U	0.04		U	0.02		U	0.04		U	0.02	0.16		0.02		U	0.02		U	0.04
Benzo (a) Pyrene	mg/kg		U	0.02		U	0.04		U	0.02		U	0.04		U	0.02	0.21		0.02	0.029		0.02		U	0.04
Benzo (b) Fluoranthene	mg/kg		U	0.02		U	0.04		U	0.02		U	0.04		U	0.02	0.21		0.02	0.034		0.02		U	0.04
Benzo (g,h,i) Perylene	mg/kg		U	0.02	0.065		0.04		U	0.02		U	0.04		U	0.02	0.2		0.02	0.031		0.02		U	0.04
Benzo (k) Fluoranthene	mg/kg		U	0.02		U	0.04		U	0.02		U	0.04		U	0.02	0.18		0.02	0.023		0.02		U	0.04
Chrysene	mg/kg		U	0.02		U	0.04		U	0.02		U	0.04		U	0.02	0.24		0.02	0.032		0.02	0.04		0.04
Dibenz (a,h) Anthracene	mg/kg		U	0.02		U	0.04		U	0.02		U	0.04		U	0.02	0.042		0.02		U	0.02		U	0.04
Fluoranthene	mg/kg		U	0.02		U	0.04		U	0.02		U	0.04		U	0.02	0.52		0.02	0.036		0.02	0.042		0.04
Fluorene	mg/kg		U	0.02		U	0.04		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02		U	0.04
Indeno (1,2,3-c,d) Pyrene	mg/kg		U	0.02		U	0.04		U	0.02		U	0.04		U	0.02	0.21		0.02	0.026		0.02		U	0.04
Naphthalene	mg/kg		U	0.02		U	0.04		U	0.02		U	0.04		U	0.02		U	0.02		U	0.02	0.051		0.04
Phenanthrene	mg/kg		U	0.02		U	0.04		U	0.02		U	0.04		U	0.02	0.29		0.02		U	0.02		U	0.04
Pyrene	mg/kg		U	0.02		U	0.04		U	0.02		U	0.04		U	0.02	0.41		0.02	0.036		0.02	0.043		0.04
PCBs																									
Aroclor-1016	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1221	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1232	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1242	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1248	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1254	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1260	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1262	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Total Metals																									
Antimony	mg/kg		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2
Arsenic	mg/kg	2.19		1	3.37		1	3.55		1	6.79		1	3.31		1	8.39		1	4.48		1	6.79		1
Cadmium	mg/kg	1.41		1	2.16		1	1.24		1	2.25		1	1.76		1		U	1	1.69		1	3.22		1
Chromium	mg/kg	18.4		2	22.6		2	22.9		2	20.7		2	20.1		2	15.6		2	25.5		2	24.6		2
Lead	mg/kg	174		1	454		1	70.6		1	253		1	149		1	126		1	184		1	411		1
Sieved Metals																									
Antimony	mg/kg		NA			NA			NA			NA			NA			NA			NA			NA	
Arsenic	mg/kg		NA			NA			NA			NA			NA			NA			NA			NA	
Cadmium	mg/kg		NA			NA			NA			NA			NA			NA			NA			NA	
Chromium	mg/kg		NA			NA			NA			NA			NA			NA			NA			NA	
Lead	mg/kg		NA			NA			NA			NA			NA			NA			NA			NA	



TABLE C-6

## EXIDE VERNON

## Off-Site Soil Sampling

## Northern Assessment Area 3-6" Sample Results

Sample Location		SS-MEIR-N-01-6			SS-MEIR-N-02-6			SS-MEIR-N-03-6			SS-MEIR-N-04-6			SS-MEIR-N-05-6		
Lab ID		13-11-1432-3			13-11-1432-6			13-11-1432-9			13-11-1432-12			13-11-1432-15		
Sample Date		11/18/2013			11/18/2013			11/18/2013			11/18/2013			11/18/2013		
Matrix		Soil			Soil			Soil			Soil			Soil		
Remarks																
Parameter	Units	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL
<b>Total Metals</b>																
Lead	mg/Kg	202		1	143		1	147		1	340		1	215		1

Sample Location		SS-MEIR-N-06-6			SS-MEIR-N-07-6			SS-MEIR-N-08-6			SS-MEIR-N-09-6			SS-MEIR-N-10-6		
Lab ID		13-11-1432-19			13-11-1432-22			13-11-1432-25			13-11-1506-3			13-11-1506-6		
Sample Date		11/18/2013			11/18/2013			11/18/2013			11/19/2013			11/19/2013		
Matrix		Soil			Soil			Soil			Soil			Soil		
Remarks		3-6'			3-6'			3-6'			3-6'			3-6'		
Parameter	Units	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL
<b>Total Metals</b>																
Lead	mg/Kg	178		1	105		1	299		1	206		1	277		1

Sample Location		SS-MEIR-N-11-6			SS-MEIR-N-12-6			SS-MEIR-N-13-6			SS-MEIR-N-15-6			SS-MEIR-N-16-6		
Lab ID		13-11-1506-9			13-11-1506-12			13-11-1506-21			13-11-1506-20			13-11-1642-22		
Sample Date		11/19/2013			11/19/2013			11/19/2013			11/19/2013			11/20/2013		
Matrix		Soil			Soil			Soil			Soil			Soil		
Remarks		3-6'			3-6'			3-6'			3-6'			3-6'		
Parameter	Units	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL
<b>Total Metals</b>																
Lead	mg/Kg	132		1	172		1	117		1	109		1	582		1

Sample Location		SS-MEIR-N-17-6			SS-MEIR-N-18-6			SS-MEIR-N-19-6		
Lab ID		13-11-1642-28			13-11-1642-31			13-11-1642-34		
Sample Date		11/20/2013			11/20/2013			11/20/2013		
Matrix		Soil			Soil			Soil		
Remarks		3-6'			3-6'			3-6'		
Parameter	Units	Result	Q	RL	Result	Q	RL	Result	Q	RL
<b>Total Metals</b>										
Lead	mg/Kg	126		1	289		1	191		1

Sample Location		SS-MEIR-N-14-6			SS-MEIR-N-14-6			SS-MEIR-N-14-6			SS-MEIR-N-14-6		
Lab ID		13-11-1506-17			13-11-1506-17a			13-11-1506-17b			13-11-1506-17c		
Sample Date		11/19/2013			11/19/2013			11/19/2013			11/19/2013		
Matrix		Soil			Soil			Soil			Soil		
Remarks		3-6"			Reanalysis			Reanalysis			Reanalysis		
Parameter	Units	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL
<b>Total Metals</b>													
Lead	mg/Kg	2030		1	419		1	385		1	381		1



TABLE C-7  
EXIDE VERNON  
Off-Site Soil Sampling  
Southern Assessment Area 0-1" Sampling Results

Sample Location		SS-MEIR-S-01-1			SS-MEIR-S-02-1			SS-MEIR-S-03-1			SS-MEIR-S-04-1			SS-MEIR-S-05-1			SS-MEIR-S-06-1			SS-MEIR-S-07-1			SS-MEIR-S-08-1			SS-MEIR-S-09-1			SS-MEIR-S-10-1			SS-MEIR-S-11-1			SS-MEIR-S-12-1				
Lab ID		13-11-1642-2			13-11-1642-5 / 13-11-1642-35			13-11-1642-8			13-11-1642-11			13-11-1642-14 / 13-11-1642-37			13-11-1642-17			13-11-1756-1			13-11-1756-4			13-11-1756-7			13-11-1756-10 / 13-11-1756-34			13-11-1756-13			13-11-1756-16				
Sample Date		11/20/2013			11/20/2013			11/20/2013			11/20/2013			11/20/2013			11/20/2013			11/21/2013			11/21/2013			11/21/2013			11/21/2013			11/21/2013			11/21/2013				
Matrix		Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil				
Remarks		0-1"			0-1"			0-1"			0-1"			0-1"			0-1"			0-1"			0-1"			0-1"			0-1"			0-1"			0-1"				
Parameter	Units	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL		
Semivolatiles																																							
1-Methylnaphthalene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		
2-Methylnaphthalene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		
Acenaphthene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		
Acenaphthylene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		
Anthracene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		
Benzo (a) Anthracene	mg/kg		U	0.02		U	0.02	0.027		0.02		U	0.02		U	0.02		U	0.02		U	0.02	0.022		0.02	0.026		0.02	0.035		0.02	0.033		0.02	0.023		0.02		
Benzo (a) Pyrene	mg/kg	0.03		0.02		U	0.02	0.034		0.02		U	0.02	0.022		0.02	0.03		0.02		U	0.02	0.028		0.02	0.032		0.02	0.043		0.02	0.042		0.02	0.023		0.02		
Benzo (b) Fluoranthene	mg/kg	0.041		0.02		U	0.02	0.026		0.02		U	0.02	0.024		0.02	0.031		0.02		U	0.02	0.031		0.02	0.038		0.02	0.044		0.02	0.038		0.02		U	0.02		
Benzo (g,h,i) Perylene	mg/kg	0.031		0.02		U	0.02	0.03		0.02		U	0.02	0.024		0.02	0.035		0.02		U	0.02	0.033		0.02	0.038		0.02	0.035		0.02	0.033		0.02		U	0.02		
Benzo (k) Fluoranthene	mg/kg	0.025		0.02		U	0.02	0.023		0.02		U	0.02		U	0.02	0.022		0.02		U	0.02	0.022		0.02	0.025		0.02	0.035		0.02	0.032		0.02		U	0.02		
Chrysene	mg/kg	0.034		0.02		U	0.02	0.033		0.02	0.02		0.02	0.024		0.02	0.026		0.02		U	0.02	0.031		0.02	0.041		0.02	0.049		0.02	0.037		0.02	0.032		0.02		
Dibenz (a,h) Anthracene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		
Fluoranthene	mg/kg	0.05		0.02		U	0.02	0.046		0.02	0.023		0.02	0.032		0.02	0.038		0.02		U	0.02	0.042		0.02	0.054		0.02	0.083		0.02	0.057		0.02	0.036		0.02		
Fluorene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		
Indeno (1,2,3-c,d) Pyrene	mg/kg	0.033		0.02		U	0.02	0.029		0.02		U	0.02		U	0.02	0.032		0.02		U	0.02	0.025		0.02	0.027		0.02	0.034		0.02	0.033		0.02		U	0.02		
Naphthalene	mg/kg		U	0.02	0.14		0.02		U	0.02		U	0.02		U	0.02	0.22		0.02		U	0.02	0.038		0.02		U	0.02		U	0.02		U	0.02		U	0.02		
Phenanthrene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02	0.03		0.02		U	0.02		U	0.02		U	0.02	0.038		0.02	0.032		0.02	0.021		0.02		
Pyrene	mg/kg	0.041		0.02		U	0.02	0.052		0.02	0.023		0.02	0.03		0.02	0.038		0.02		U	0.02	0.042		0.02	0.052		0.02	0.071		0.02	0.051		0.02	0.039		0.02		
PCBs																																							
Aroclor-1016	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		
Aroclor-1221	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		
Aroclor-1232	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		
Aroclor-1242	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		
Aroclor-1248	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		
Aroclor-1254	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		
Aroclor-1260	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		
Aroclor-1262	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		
Total Metals																																							
Antimony	mg/kg		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		
Arsenic	mg/kg	6.53		1	1.67		1	1.61		1	1.51		1	2.68		1	3.18		1	2.05		1	1.92		1	2.55		1	1.95		1	1.79		1	2.9		1		
Cadmium	mg/kg	1.25		1		U	1		U	1	1.14		1	1.31		1	1.26		1	1.09		1	1.09		1		U	1	1.5		1	1.05		1	1.35		1		
Chromium	mg/kg	18.7		2	15.1		2	16.1		2	17.2		2	19.9		2	20.6		2	16.2		2	14.4		2	19.2		2	16.8		2	15.3		2	19.7		2		
Lead	mg/kg	122		1	39.7		1	90.9		1	134		1	164		1	138		1	144		1	151		1	134		1	174		1	116		1	140		1		
Sieved Metals																																							
Antimony	mg/kg		NA			U	2		NA			NA			U	2		NA			NA			NA			NA			U	2		NA			NA			
Arsenic	mg/kg		NA		1.81		1		NA			NA		2.25		1		NA			NA			NA			NA		1.98		1		NA			NA			
Cadmium	mg/kg		NA			U	1		NA			NA		1.26		1		NA			NA			NA			NA		1.62		1		NA			NA			
Chromium	mg/kg		NA		16.5		2		NA			NA		19.6		2		NA			NA			NA			NA		20.1		2		NA			NA			
Lead	mg/kg		NA		44.7		1		NA			NA		169		1		NA			NA			NA			NA		189		1		NA						

TABLE C-7  
EXIDE VERNON  
Off-Site Soil Sampling  
Southern Assessment Area 0-1" Sampling Results

Sample Location		SS-MEIR-S-13-1			SS-MEIR-S-14-1			SS-MEIR-S-15-1			SS-MEIR-S-16-1			SS-MEIR-S-17-1			SS-MEIR-S-18-1			SS-MEIR-S-19-1			SS-MEIR-S-20-1			SS-MEIR-S-21-1		
Lab ID		13-11-1756-22 / 13-11-1756-36			13-11-1756-25			13-11-1756-28			13-11-1756-31			13-11-1828-2			13-11-1828-5			13-11-1828-8			13-11-1756-19			13-11-1828-11		
Sample Date		11/21/2013			11/21/2013			11/21/2013			11/21/2013			11/22/2013			11/22/2013			11/22/2013			11/21/2013			11/22/2013		
Matrix		Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil		
Remarks		0-1"			0-1"			0-1"			0-1"			0-1"			0-1"			0-1"			0-1"			0-1"		
Parameter	Units	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL
Semivolatiles																												
1-Methylnaphthalene	mg/kg		U	0.04		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02
2-Methylnaphthalene	mg/kg		U	0.04		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02
Acenaphthene	mg/kg		U	0.04		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02
Acenaphthylene	mg/kg		U	0.04		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02
Anthracene	mg/kg		U	0.04		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02
Benzo (a) Anthracene	mg/kg		U	0.04		U	0.02	0.03		0.02		U	0.02	0.042		0.02	0.029		0.02	0.022		0.02		U	0.04	0.031		0.02
Benzo (a) Pyrene	mg/kg		U	0.04	0.021		0.02	0.037		0.02	0.024		0.02	0.051		0.02	0.035		0.02	0.024		0.02		U	0.04	0.035		0.02
Benzo (b) Fluoranthene	mg/kg		U	0.04	0.021		0.02	0.038		0.02	0.033		0.02	0.059		0.02	0.036		0.02	0.029		0.02		U	0.04	0.03		0.02
Benzo (g,h,i) Perylene	mg/kg		U	0.04	0.024		0.02	0.038		0.02	0.026		0.02	0.057		0.02	0.034		0.02		U	0.02		U	0.04	0.032		0.02
Benzo (k) Fluoranthene	mg/kg		U	0.04		U	0.02	0.032		0.02		U	0.02	0.044		0.02	0.034		0.02		U	0.02		U	0.04	0.029		0.02
Chrysene	mg/kg		U	0.04	0.023		0.02	0.045		0.02	0.027		0.02	0.071		0.02	0.054		0.02	0.031		0.02		U	0.04	0.041		0.02
Dibenz (a,h) Anthracene	mg/kg		U	0.04		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02
Fluoranthene	mg/kg	0.045		0.04	0.03		0.02	0.062		0.02	0.035		0.02	0.075		0.02	0.051		0.02	0.037		0.02	0.063		0.04	0.054		0.02
Fluorene	mg/kg		U	0.04		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02
Indeno (1,2,3-c,d) Pyrene	mg/kg		U	0.04		U	0.02	0.03		0.02	0.025		0.02	0.035		0.02	0.023		0.02		U	0.02		U	0.04	0.026		0.02
Naphthalene	mg/kg		U	0.04		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.04		U	0.02
Phenanthrene	mg/kg		U	0.04		U	0.02	0.026		0.02		U	0.02	0.035		0.02	0.025		0.02		U	0.02		U	0.04		U	0.02
Pyrene	mg/kg	0.051		0.04	0.029		0.02	0.059		0.02	0.029		0.02	0.085		0.02	0.058		0.02	0.044		0.02	0.059		0.04	0.056		0.02
PCBs																												
Aroclor-1016	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1221	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1232	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1242	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1248	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1254	ug/kg	69		50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1260	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Aroclor-1262	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50
Total Metals																												
Antimony	mg/kg		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2
Arsenic	mg/kg	2.22		1	1.79		1	2		1	2.01		1	1.66		1	1.83		1	1.82		1	3.15		1	1.57		1
Cadmium	mg/kg		U	1	1.5		1	1.25		1	1.12		1	1.43		1	1.46		1	1.35		1	1.33		1		U	1
Chromium	mg/kg	12.8		2	23.1		2	22.3		2	17.5		2	20.6		2	17.2		2	18.4		2	18.4		2	14		2
Lead	mg/kg	122		1	156		1	133		1	92.3		1	169		1	178		1	110		1	149		1	106		1
Sieved Metals																												
Antimony	mg/kg		U	2		NA			NA			NA			NA			NA			NA			NA			NA	
Arsenic	mg/kg	1.97		1		NA			NA			NA			NA			NA			NA			NA			NA	
Cadmium	mg/kg		U	1		NA			NA			NA			NA			NA			NA			NA			NA	
Chromium	mg/kg	13.7		2		NA			NA			NA			NA			NA			NA			NA			NA	
Lead	mg/kg	130		1		NA			NA			NA			NA			NA			NA			NA			NA	
Other Metals																												
Chromium, Hexavalent	ug/kg		NA			U	2000		U	2000		U	2000		U	2000		NA			U	2000		NA			NA	

TABLE C-8  
EXIDE VERNON  
Off-Site Soil Sampling  
Southern Assessment Area 1-3" Sampling Results

Sample Location		SS-MEIR-S-01-3			SS-MEIR-S-02-3			SS-MEIR-S-03-3			SS-MEIR-S-04-3			SS-MEIR-S-05-3			SS-MEIR-S-06-3			SS-MEIR-S-07-3			SS-MEIR-S-08-3			SS-MEIR-S-09-3			SS-MEIR-S-10-3			SS-MEIR-S-11-3			
Lab ID		13-11-1642-3			13-11-1642-6 / 13-11-1642-36			13-11-1642-9			13-11-1642-12			13-11-1642-15 / 13-11-1642-38			13-11-1642-18			13-11-1756-2			13-11-1756-5			13-11-1756-8			13-11-1756-11 / 13-11-1756-35			13-11-1756-14			
Sample Date		11/20/2013			11/20/2013			11/20/2013			11/20/2013			11/20/2013			11/20/2013			11/21/2013			11/21/2013			11/21/2013			11/21/2013			11/21/2013			
Matrix		Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil			Soil			
Remarks		1-3"			1-3"			1-3"			1-3"			1-3"			1-3"			1-3"			1-3"			1-3"			1-3"			1-3"			
Parameter	Units	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	
Semivolatiles																																			
1-Methylnaphthalene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02	
2-Methylnaphthalene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02	
Acenaphthene	mg/kg		U	0.02	0.03		0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02	
Acenaphthylene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02	
Anthracene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02	
Benzo (a) Anthracene	mg/kg	0.022		0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02	0.021		0.02	0.024		0.02	0.024		0.02		U	0.02	
Benzo (a) Pyrene	mg/kg	0.035		0.02	0.032		0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02	0.03		0.02	0.031		0.02	0.031		0.02	0.025		0.02	
Benzo (b) Fluoranthene	mg/kg	0.041		0.02	0.024		0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02	0.031		0.02	0.035		0.02	0.033		0.02	0.024		0.02	
Benzo (g,h,i) Perylene	mg/kg	0.039		0.02	0.034		0.02		U	0.02		U	0.02	0.022		0.02		U	0.02		U	0.02	0.032		0.02	0.032		0.02	0.03		0.02	0.024		0.02	
Benzo (k) Fluoranthene	mg/kg	0.029		0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02	0.022		0.02	0.024		0.02	0.028		0.02		U	0.02	
Chrysene	mg/kg	0.043		0.02	0.02		0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02	0.03		0.02	0.036		0.02	0.039		0.02	0.026		0.02	
Dibenz (a,h) Anthracene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02	
Fluoranthene	mg/kg	0.057		0.02	0.094		0.02	0.02		0.02	0.022		0.02	0.025		0.02	0.021		0.02		U	0.02	0.037		0.02	0.049		0.02	0.051		0.02	0.032		0.02	
Fluorene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02	
Indeno (1,2,3-c,d) Pyrene	mg/kg	0.039		0.02	0.028		0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02	0.027		0.02	0.026		0.02	0.026		0.02	0.02		0.02	
Naphthalene	mg/kg		U	0.02	0.33		0.02		U	0.02		U	0.02	0.034		0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02	
Phenanthrene	mg/kg		U	0.02	0.062		0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02	
Pyrene	mg/kg	0.046		0.02	0.1		0.02	0.022		0.02	0.021		0.02	0.023		0.02	0.02		U	0.02		U	0.02	0.039		0.02	0.046		0.02	0.055		0.02	0.033		0.02
PCBs																																			
Aroclor-1016	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50	
Aroclor-1221	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50	
Aroclor-1232	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50	
Aroclor-1242	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50	
Aroclor-1248	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50	
Aroclor-1254	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50	
Aroclor-1260	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50	55		50		U	50		U	50		U	50	
Aroclor-1262	ug/kg		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50		U	50	
Total Metals																																			
Antimony	mg/kg		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2		U	2	
Arsenic	mg/kg	7.53		1	1.86		1	1.74		1	1.77		1	2.66		1	2.89		1	2.11		1	2.76		1	3.09		1	1.87		1	2.24		1	
Cadmium	mg/kg	1.24		1		U	1	1.18		1		U	1	1.44		1	1.31		1	1.05		1	1.56		1	1		1	1.64		1	1.14		1	
Chromium	mg/kg	20		2	16		2	16.2		2	17.5		2	17.5		2	20.5		2	16.4		2	26.8		2	18.7		2	20		2	17.3		2	
Lead	mg/kg	95.6		1	50.2		1	145		1	119		1	188		1	117		1	128		1	239		1	158		1	169		1	132		1	
Sieved Metals																																			
Antimony	mg/kg		NA			U	2		NA			NA			U	2		NA			NA			NA			NA			U	2		NA		
Arsenic	mg/kg		NA		1.94		1		NA			NA		2.06		1		NA			NA			NA			NA		1.92		1		NA		
Cadmium	mg/kg		NA			U	1		NA			NA		1.28		1		NA			NA			NA			NA		1.79		1		NA		
Chromium	mg/kg		NA		17		2		NA			NA		19.6		2		NA			NA			NA			NA		20.7		2		NA		
Lead	mg/kg		NA		50		1		NA			NA		167		1		NA			NA			NA			NA		189		1		NA		



TABLE C-9

## EXIDE VERNON

## Off-Site Soil Sampling

## Southern Assessment Area 3-6" Sampling Results

Sample Location		SS-MEIR-S-01-6			SS-MEIR-S-02-6			SS-MEIR-S-03-6			SS-MEIR-S-04-6		
Lab ID		13-11-1642-4			13-11-1642-7			13-11-1642-10			13-11-1642-13		
Sample Date		11/20/2013			11/20/2013			11/20/2013			11/20/2013		
Matrix		Soil			Soil			Soil			Soil		
Remarks		3-6"			3-6"			3-6"			3-6"		
Parameter	Units	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL
Total Metals													
Lead	mg/Kg	199		1	96.1		1	74.7		1	115		1

Sample Location		SS-MEIR-S-05-6			SS-MEIR-S-06-6			SS-MEIR-S-07-6			SS-MEIR-S-08-6		
Lab ID		13-11-1642-16			13-11-1642-19			13-11-1756-3			13-11-1756-6		
Sample Date		11/20/2013			11/20/2013			11/21/2013			11/21/2013		
Matrix		Soil			Soil			Soil			Soil		
Remarks		3-6"			3-6"			3-6"			3-6"		
Parameter	Units	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL
Total Metals													
Lead	mg/Kg	135		1	104		1	126		1	175		1

Sample Location		SS-MEIR-S-09-6			SS-MEIR-S-10-6			SS-MEIR-S-11-6			SS-MEIR-S-12-6		
Lab ID		13-11-1756-9			13-11-1756-12			13-11-1756-15			13-11-1756-18		
Sample Date		11/21/2013			11/21/2013			11/21/2013			11/21/2013		
Matrix		Soil			Soil			Soil			Soil		
Remarks		3-6"			3-6"			3-6"			3-6"		
Parameter	Units	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL
Total Metals													
Lead	mg/Kg	180		1	205		1	136		1	154		1

Sample Location		SS-MEIR-S-13-6			SS-MEIR-S-14-6			SS-MEIR-S-15-6			SS-MEIR-S-16-6		
Lab ID		13-11-1756-24			13-11-1756-27			13-11-1756-30			13-11-1756-33		
Sample Date		11/21/2013			11/21/2013			11/21/2013			11/21/2013		
Matrix		Soil			Soil			Soil			Soil		
Remarks		3-6"			3-6"			3-6"			3-6"		
Parameter	Units	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL
Total Metals													
Lead	mg/Kg	150		1	180		1	113		1	110		1

Sample Location		SS-MEIR-S-17-6			SS-MEIR-S-18-6			SS-MEIR-S-19-6			SS-MEIR-S-21-6		
Lab ID		13-11-1828-4			13-11-1828-7			13-11-1828-10			13-11-1828-13		
Sample Date		11/22/2013			11/22/2013			11/22/2013			11/22/2013		
Matrix		Soil			Soil			Soil			Soil		
Remarks		3-6"			3-6"			3-6"			3-6"		
Parameter	Units	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL
Total Metals													
Lead	mg/Kg	305		1	280		1	97.8		1	112		1

TABLE C-10  
EXIDE VERNON  
Off-Site Soil Sampling  
Northern and Southern Schools Sample Results

Sample Location		SS-School-N-01-1			SS-School-N-01-3			SS-School-N-01-6			SS-School-S-01-1			SS-School-S-01-3		
Lab ID		14-01-1441-1			14-01-1441-2			14-01-1441-1			13-11-2123-2			13-11-2123-3		
Sample Date		1/24/2014			1/24/2014			1/24/2014			11/27/2013			11/27/2013		
Matrix		Soil			Soil			Soil			Soil			Soil		
Remarks		0-1"			1-3"			3-6"			0-1"			1-3"		
Parameter	Units	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL	Result	Q	RL
Semivolatiles																
1-Methylnaphthalene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02
2-Methylnaphthalene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02
Acenaphthene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02
Acenaphthylene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02
Anthracene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02
Benzo (a) Anthracene	mg/kg	0.039		0.02	0.041		0.02		U	0.02		U	0.02		U	0.02
Benzo (a) Pyrene	mg/kg	0.048		0.02	0.046		0.02		U	0.02		U	0.02		U	0.02
Benzo (b) Fluoranthene	mg/kg	0.056		0.02	0.049		0.02		U	0.02		U	0.02		U	0.02
Benzo (g,h,i) Perylene	mg/kg	0.058		0.02	0.042		0.02		U	0.02		U	0.02		U	0.02
Benzo (k) Fluoranthene	mg/kg	0.042		0.02	0.035		0.02		U	0.02		U	0.02		U	0.02
Chrysene	mg/kg	0.062		0.02	0.056		0.02		U	0.02		U	0.02		U	0.02
Dibenz (a,h) Anthracene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02
Fluoranthene	mg/kg	0.089		0.02	0.089		0.02		U	0.02		U	0.02		U	0.02
Fluorene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02
Indeno (1,2,3-c,d) Pyrene	mg/kg	0.051		0.02	0.041		0.02		U	0.02		U	0.02		U	0.02
Naphthalene	mg/kg		U	0.02		U	0.02		U	0.02		U	0.02		U	0.02
Phenanthrene	mg/kg	0.059		0.02	0.062		0.02		U	0.02		U	0.02		U	0.02
Pyrene	mg/kg	0.094		0.02	0.092		0.02		U	0.02		U	0.02		U	0.02
PCBs																
Aroclor-1016	ug/kg		U	49		U	48		U	50		U	50		U	50
Aroclor-1221	ug/kg		U	49		U	48		U	50		U	50		U	50
Aroclor-1232	ug/kg		U	49		U	48		U	50		U	50		U	50
Aroclor-1242	ug/kg		U	49		U	48		U	50		U	50		U	50
Aroclor-1248	ug/kg		U	49	64		48		U	50		U	50		U	50
Aroclor-1254	ug/kg	160		49	250		48		U	50		U	50		U	50
Aroclor-1260	ug/kg	150		49	210		48		U	50		U	50		U	50
Aroclor-1262	ug/kg		U	49		U	48		U	50		U	50		U	50
Total Metals																
Antimony	mg/kg		U	2		U	2		U	2		U	2		U	2
Arsenic	mg/kg	2.56		1	3.09		1	2.43		1	2.77		1	3.31		1
Cadmium	mg/kg	1.84		1	2.97		1		U	1		U	1		U	1
Chromium	mg/kg	31.2		2	43.1		2	11.8		2	15.6		2	19.1		2
Lead	mg/kg	70		1	95.4		1	52.1		1	40.8		1	33.2		1

**TABLE C-11**  
**Dioxins/Furans Sample Results**  
**Off-Site Soil Sampling Report**  
**Exide Vernon**

Sample ID	KM TEQ (ng/kg)	Laboratory Data Report
<b>Sample ID</b>		
SS-MEIR-N-01-1	<b>12</b>	13-11-1432_s3
SS-MEIR-N-03-1	<b>8.5</b>	13-11-1432_s3
SS-MEIR-N-06-1	<b>11</b>	13-11-1432_s3
SS-MEIR-N-09-1	<b>14</b>	13-11-1506_s1
SS-MEIR-N-13-1	<b>6.3</b>	13-11-1506_s1
SS-MEIR-S-01-1	<b>5.5</b>	13-11-1642_s1
SS-MEIR-S-03-1	<b>5.7</b>	13-11-1642_s1
SS-MEIR-S-06-1	2.8	13-11-1642_s1
SS-MEIR-S-09-1	<b>6.0</b>	13-11-1756_s2
SS-MEIR-S-12-1	<b>6.9</b>	13-11-1756_s2
SS-BG-01-1	<b>9.2</b>	13-11-1195_s1
SS-BG-02-1	<b>6.6</b>	13-11-1195_s1
SS-BG-03-1	<b>5.8</b>	13-11-1195_s1
SS-BG-04-1	<b>9.6</b>	13-11-1195_s1
SS-BG-05-1	<b>11</b>	13-11-1195_s1

Notes:

1. KM TEQ calculated using the Kaplan Meier Technique (USEPA 2006).
2. Toxic Equivalency Factors (TEFs) for dioxins/furans obtained from World Health Organization (2005).
3. Mean derived by using KMStats Version 1.4 in EXCEL spreadsheet.





## **95th UCL CALCULATIONS**

	A	B	C	D	E	F	G	H	I	J	K	L				
1	Gamma UCL Statistics for Uncensored Full Data Sets															
2	Arsenic Background 0-1 Inch															
3	User Selected Options															
4	Date/Time of Computation		12/11/2013 8:37:08 AM													
5	From File		WorkSheet.xls													
6	Full Precision		OFF													
7	Confidence Coefficient		95%													
8	Number of Bootstrap Operations		2000													
9																
10																
11	C0															
12																
13	General Statistics															
14	Total Number of Observations				19		Number of Distinct Observations				19					
15							Number of Missing Observations				0					
16	Minimum				2.35		Mean				4.234					
17	Maximum				8.68		Median				3.67					
18	SD				1.81		SD of logged Data				0.385					
19	Coefficient of Variation				0.428		Skewness				1.255					
20																
21	Gamma GOF Test															
22	A-D Test Statistic				0.653		Anderson-Darling Gamma GOF Test									
23	5% A-D Critical Value				0.742		Data appear Gamma Distributed at 5% Significance Level									
24	K-S Test Statistic				0.183		Kolmogrov-Smirnoff Gamma GOF Test									
25	5% K-S Critical Value				0.199		Data appear Gamma Distributed at 5% Significance Level									
26	Data appear Gamma Distributed at 5% Significance Level															
27																
28	Gamma Statistics															
29	k hat (MLE)				6.842		k star (bias corrected MLE)				5.797					
30	Theta hat (MLE)				0.619		Theta star (bias corrected MLE)				0.73					
31	nu hat (MLE)				260		nu star (bias corrected)				220.3					
32	MLE Mean (bias corrected)				4.234		MLE Sd (bias corrected)				1.758					
33									Approximate Chi Square Value (0.05)				186.9			
34	Adjusted Level of Significance				0.0369						Adjusted Chi Square Value				184.3	
35																
36	Assuming Gamma Distribution															
37	95% Approximate Gamma UCL (use when n>=50)				4.989		95% Adjusted Gamma UCL (use when n<50)				5.062					
38																
39	Suggested UCL to Use															
40	95% Adjusted Gamma UCL				5.062											
41																
42	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL															
43	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)															
44	and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.															
45	For additional insight the user may want to consult a statistician.															
46																

	A	B	C	D	E	F	G	H	I	J	K	L
1	Nonparametric UCL Statistics for Uncensored Full Data Sets											
2	Arsenic 1-3 Inch											
3	User Selected Options											
4	Date/Time of Computation		12/11/2013 8:39:08 AM									
5	From File		WorkSheet.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8	Number of Bootstrap Operations		2000									
9												
10												
11	C0											
12												
13	General Statistics											
14	Total Number of Observations				19		Number of Distinct Observations				17	
15							Number of Missing Observations				0	
16	Minimum				2.85		Mean				4.942	
17	Maximum				11.5		Median				4.21	
18	SD				2.361		Std. Error of Mean				0.542	
19	Coefficient of Variation				0.478		Skewness				1.683	
20	Mean of logged Data				1.513		SD of logged Data				0.4	
21												
22	Nonparametric Distribution Free UCL Statistics											
23	Data do not follow a Discernible Distribution (0.05)											
24												
25	Assuming Normal Distribution											
26	95% Normal UCL					95% UCLs (Adjusted for Skewness)						
27	95% Student's-t UCL			5.881		95% Adjusted-CLT UCL (Chen-1995)					6.056	
28						95% Modified-t UCL (Johnson-1978)					5.916	
29												
30	Nonparametric Distribution Free UCLs											
31	95% CLT UCL			5.833		95% Jackknife UCL					5.881	
32	95% Standard Bootstrap UCL			5.793		95% Bootstrap-t UCL					6.251	
33	95% Hall's Bootstrap UCL			6.347		95% Percentile Bootstrap UCL					5.884	
34	95% BCA Bootstrap UCL			6.108								
35	90% Chebyshev(Mean, Sd) UCL			6.567		95% Chebyshev(Mean, Sd) UCL					7.303	
36	97.5% Chebyshev(Mean, Sd) UCL			8.324		99% Chebyshev(Mean, Sd) UCL					10.33	
37												
38	Suggested UCL to Use											
39	95% Student's-t UCL			5.881		or 95% Modified-t UCL					5.916	
40												
41	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
42	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
43	and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.											
44	For additional insight the user may want to consult a statistician.											
45												

	A	B	C	D	E	F	G	H	I	J	K	L				
1	Gamma UCL Statistics for Uncensored Full Data Sets															
2	Arsenic North 0-1 Inch															
3	User Selected Options															
4	Date/Time of Computation		12/11/2013 8:40:07 AM													
5	From File		WorkSheet.xls													
6	Full Precision		OFF													
7	Confidence Coefficient		95%													
8	Number of Bootstrap Operations		2000													
9																
10																
11	C0															
12																
13	General Statistics															
14	Total Number of Observations				19		Number of Distinct Observations				19					
15							Number of Missing Observations				0					
16	Minimum				1.39		Mean				3.292					
17	Maximum				9.32		Median				3.13					
18	SD				1.723		SD of logged Data				0.425					
19	Coefficient of Variation				0.523		Skewness				2.542					
20																
21	Gamma GOF Test															
22	A-D Test Statistic				0.635		Anderson-Darling Gamma GOF Test									
23	5% A-D Critical Value				0.742		Data appear Gamma Distributed at 5% Significance Level									
24	K-S Test Statistic				0.179		Kolmogrov-Smirnoff Gamma GOF Test									
25	5% K-S Critical Value				0.199		Data appear Gamma Distributed at 5% Significance Level									
26	Data appear Gamma Distributed at 5% Significance Level															
27																
28	Gamma Statistics															
29	k hat (MLE)				5.451		k star (bias corrected MLE)				4.626					
30	Theta hat (MLE)				0.604		Theta star (bias corrected MLE)				0.712					
31	nu hat (MLE)				207.1		nu star (bias corrected)				175.8					
32	MLE Mean (bias corrected)				3.292		MLE Sd (bias corrected)				1.531					
33									Approximate Chi Square Value (0.05)				146.1			
34	Adjusted Level of Significance				0.0369						Adjusted Chi Square Value				143.7	
35																
36	Assuming Gamma Distribution															
37	95% Approximate Gamma UCL (use when n>=50)				3.96		95% Adjusted Gamma UCL (use when n<50)				4.026					
38																
39	Suggested UCL to Use															
40	95% Adjusted Gamma UCL				4.026											
41																
42	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL															
43	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)															
44	and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.															
45	For additional insight the user may want to consult a statistician.															
46																



	A	B	C	D	E	F	G	H	I	J	K	L
1	Nonparametric UCL Statistics for Uncensored Full Data Sets											
2	Arsenic South 0-1 Inch											
3	User Selected Options											
4	Date/Time of Computation		12/11/2013 8:43:04 AM									
5	From File		WorkSheet.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8	Number of Bootstrap Operations		2000									
9												
10												
11	C0											
12												
13	General Statistics											
14	Total Number of Observations				20		Number of Distinct Observations				19	
15							Number of Missing Observations				0	
16	Minimum				1.51		Mean				2.262	
17	Maximum				6.53		Median				1.935	
18	SD				1.103		Std. Error of Mean				0.247	
19	Coefficient of Variation				0.488		Skewness				3.35	
20	Mean of logged Data				0.749		SD of logged Data				0.336	
21												
22	Nonparametric Distribution Free UCL Statistics											
23	Data do not follow a Discernible Distribution (0.05)											
24												
25	Assuming Normal Distribution											
26	95% Normal UCL					95% UCLs (Adjusted for Skewness)						
27	95% Student's-t UCL			2.689		95% Adjusted-CLT UCL (Chen-1995)					2.865	
28						95% Modified-t UCL (Johnson-1978)					2.719	
29												
30	Nonparametric Distribution Free UCLs											
31	95% CLT UCL			2.668		95% Jackknife UCL					2.689	
32	95% Standard Bootstrap UCL			2.644		95% Bootstrap-t UCL					3.202	
33	95% Hall's Bootstrap UCL			4.196		95% Percentile Bootstrap UCL					2.686	
34	95% BCA Bootstrap UCL			2.984								
35	90% Chebyshev(Mean, Sd) UCL			3.002		95% Chebyshev(Mean, Sd) UCL					3.337	
36	97.5% Chebyshev(Mean, Sd) UCL			3.803		99% Chebyshev(Mean, Sd) UCL					4.717	
37												
38	Suggested UCL to Use											
39	95% Student's-t UCL			2.689		or 95% Modified-t UCL					2.719	
40												
41	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
42	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
43	and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.											
44	For additional insight the user may want to consult a statistician.											
45												



	A	B	C	D	E	F	G	H	I	J	K	L
1	Lognormal UCL Statistics for Uncensored Full Data Sets											
2	Arsenic South 1-3 Inch											
3	User Selected Options											
4	Date/Time of Computation			12/11/2013 8:44:09 AM								
5	From File			WorkSheet.xls								
6	Full Precision			OFF								
7	Confidence Coefficient			95%								
8	mber of Bootstrap Operations			2000								
9												
10												
11	C0											
12												
13	General Statistics											
14	Total Number of Observations					20	Number of Distinct Observations					20
15							Number of Missing Observations					0
16	Minimum					1.53	Mean					2.521
17	Maximum					7.53	Median					2.27
18	SD					1.253	Std. Error of Mean					0.28
19	Coefficient of Variation					0.497	Skewness					3.652
20												
21	Lognormal GOF Test											
22	Shapiro Wilk Test Statistic					0.798	Shapiro Wilk Lognormal GOF Test					
23	5% Shapiro Wilk Critical Value					0.905	Data Not Lognormal at 5% Significance Level					
24	Lilliefors Test Statistic					0.17	Lilliefors Lognormal GOF Test					
25	5% Lilliefors Critical Value					0.198	Data appear Lognormal at 5% Significance Level					
26	Data appear Approximate Lognormal at 5% Significance Level											
27												
28	Lognormal Statistics											
29	Minimum of Logged Data					0.425	Mean of logged Data					0.857
30	Maximum of Logged Data					2.019	SD of logged Data					0.334
31												
32	Assuming Lognormal Distribution											
33	95% H-UCL					2.876	90% Chebyshev (MVUE) UCL					3.05
34	95% Chebyshev (MVUE) UCL					3.306	97.5% Chebyshev (MVUE) UCL					3.661
35	99% Chebyshev (MVUE) UCL					4.36						
36												
37	Nonparametric Distribution Free UCLs											
38	95% CLT UCL					2.981	95% Jackknife UCL					3.005
39	95% Standard Bootstrap UCL					2.97	95% Bootstrap-t UCL					3.713
40	95% Hall's Bootstrap UCL					4.894	95% Percentile Bootstrap UCL					3.035
41	95% BCA Bootstrap UCL					3.264						
42	90% Chebyshev(Mean, Sd) UCL					3.361	95% Chebyshev(Mean, Sd) UCL					3.742
43	97.5% Chebyshev(Mean, Sd) UCL					4.27	99% Chebyshev(Mean, Sd) UCL					5.308
44												
45	Suggested UCL to Use											
46	95% Student's-t UCL					3.005	or 95% Modified-t UCL					3.043
47	or 95% H-UCL					2.876						
48												

	A	B	C	D	E	F	G	H	I	J	K	L
1	Gamma UCL Statistics for Uncensored Full Data Sets											
2	Lead Background 0-1 Inch											
3	User Selected Options											
4	Date/Time of Computation		12/9/2013 12:53:18 PM									
5	From File		WorkSheet.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8	Number of Bootstrap Operations		2000									
9												
10												
11	C0											
12												
13	General Statistics											
14	Total Number of Observations				19		Number of Distinct Observations				19	
15							Number of Missing Observations				0	
16	Minimum				29.4		Mean				63.16	
17	Maximum				132		Median				54.8	
18	SD				28.76		SD of logged Data				0.419	
19	Coefficient of Variation				0.455		Skewness				1.207	
20												
21	Gamma GOF Test											
22	A-D Test Statistic				0.418		Anderson-Darling Gamma GOF Test					
23	5% A-D Critical Value				0.742		Data appear Gamma Distributed at 5% Significance Level					
24	K-S Test Statistic				0.161		Kolmogrov-Smirnoff Gamma GOF Test					
25	5% K-S Critical Value				0.199		Data appear Gamma Distributed at 5% Significance Level					
26	Data appear Gamma Distributed at 5% Significance Level											
27												
28	Gamma Statistics											
29	k hat (MLE)				5.914		k star (bias corrected MLE)				5.016	
30	Theta hat (MLE)				10.68		Theta star (bias corrected MLE)				12.59	
31	nu hat (MLE)				224.7		nu star (bias corrected)				190.6	
32	MLE Mean (bias corrected)				63.16		MLE Sd (bias corrected)				28.2	
33					Approximate Chi Square Value (0.05)				159.7			
34	Adjusted Level of Significance				0.0369		Adjusted Chi Square Value				157.2	
35												
36	Assuming Gamma Distribution											
37	95% Approximate Gamma UCL (use when n>=50)				75.4		95% Adjusted Gamma UCL (use when n<50)				76.59	
38												
39	Suggested UCL to Use											
40	95% Adjusted Gamma UCL				76.59							
41												
42	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
43	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
44	and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.											
45	For additional insight the user may want to consult a statistician.											
46												

	A	B	C	D	E	F	G	H	I	J	K	L
1	Gamma UCL Statistics for Uncensored Full Data Sets											
2	Lead 1-3 Inch											
3	User Selected Options											
4	Date/Time of Computation		12/6/2013 3:57:13 PM									
5	From File		WorkSheet.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8	Number of Bootstrap Operations		2000									
9												
10												
11	C0											
12												
13	General Statistics											
14	Total Number of Observations				19		Number of Distinct Observations				18	
15							Number of Missing Observations				0	
16	Minimum				31.5		Mean				68.04	
17	Maximum				195		Median				58.9	
18	SD				34.99		SD of logged Data				0.392	
19	Coefficient of Variation				0.514		Skewness				2.847	
20												
21	Gamma GOF Test											
22	A-D Test Statistic				0.743		Anderson-Darling Gamma GOF Test					
23	5% A-D Critical Value				0.742		Data Not Gamma Distributed at 5% Significance Level					
24	K-S Test Statistic				0.154		Kolmogrov-Smirnoff Gamma GOF Test					
25	5% K-S Critical Value				0.199		Data appear Gamma Distributed at 5% Significance Level					
26	Data appear to Follow Approximate Gamma Distribution at 5% Significance Level											
27												
28	Gamma Statistics											
29	k hat (MLE)				6.077		k star (bias corrected MLE)				5.153	
30	Theta hat (MLE)				11.2		Theta star (bias corrected MLE)				13.2	
31	nu hat (MLE)				230.9		nu star (bias corrected)				195.8	
32	MLE Mean (bias corrected)				68.04		MLE Sd (bias corrected)				29.97	
33					Approximate Chi Square Value (0.05)				164.4			
34	Adjusted Level of Significance				0.0369		Adjusted Chi Square Value				161.9	
35												
36	Assuming Gamma Distribution											
37	95% Approximate Gamma UCL (use when n>=50)				81.02		95% Adjusted Gamma UCL (use when n<50)				82.27	
38												
39	Suggested UCL to Use											
40	95% Adjusted Gamma UCL				82.27							
41												
42	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL											
43	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
44	and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.											
45	For additional insight the user may want to consult a statistician.											
46												

	A	B	C	D	E	F	G	H	I	J	K	L
1				Gamma UCL Statistics for Full Data Sets								
2	User Selected Options			Lead Background 3-6 Inch								
3	From File			WorkSheet.wst								
4	Full Precision			OFF								
5	Confidence Coefficient			95%								
6	Number of Bootstrap Operations			2000								
7												
8												
9	C0											
10												
11	Number of Valid Observations					19						
12	Number of Distinct Observations					19						
13	Minimum					28.8						
14	Maximum					114						
15	Mean					59.22						
16	Median					55.3						
17	Standard Deviation					24.41						
18	Variance					596.1						
19	k star (bias corrected)					5.852						
20	Theta Star					10.12						
21	nu star					222.4						
22	Approximate Chi Square Value (.05)					188.9						
23	Adjusted Level of Significance					0.0369						
24	Adjusted Chi Square Value (.05)					186.2						
25												
26	Anderson-Darling Test Statistic					0.432						
27	Anderson-Darling Critical Value					0.742						
28	Kolmogorov-Smirnov Test Statistic					0.137						
29	Kolmogorov-Smirnov Critical Value					0.199						
30	Data appear Gamma distributed at 5% Significance Level											
31												
32	95% UCLs (Adjusted for Skewness)											
33	95% Adjusted-CLT UCL					69.81						
34	95% Modified-t UCL					69.14						
35												
36	95% Non-Parametric UCLs											
37	95% Bootstrap-t UCL					70.57						
38	95% Hall's Bootstrap UCL					70.53						
39												
40	95% Gamma UCLs(Assuming Gamma Distribution)											
41	95% Approximate Gamma UCL					69.72						
42	95% Adjusted Gamma UCL					70.73						
43												
44	Potential UCL to Use											
45	Use Approximate Gamma UCL					69.72						
46												

	A	B	C	D	E	F	G	H	I	J	K	L
1	Normal UCL Statistics for Uncensored Full Data Sets											
2	Lead North 0-1 Inch											
3	User Selected Options											
4	Date/Time of Computation		12/6/2013 3:58:41 PM									
5	From File		WorkSheet.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8												
9												
10	C0											
11												
12	General Statistics											
13	Total Number of Observations				19		Number of Distinct Observations				19	
14							Number of Missing Observations				0	
15	Minimum				62.5		Mean				175	
16	Maximum				342		Median				162	
17	SD				72.84		SD of logged Data				0.422	
18	Coefficient of Variation				0.416		Skewness				0.919	
19												
20	Normal GOF Test											
21	Shapiro Wilk Test Statistic				0.928		Shapiro Wilk GOF Test					
22	5% Shapiro Wilk Critical Value				0.901		Data appear Normal at 5% Significance Level					
23	Lilliefors Test Statistic				0.191		Lilliefors GOF Test					
24	5% Lilliefors Critical Value				0.203		Data appear Normal at 5% Significance Level					
25	Data appear Normal at 5% Significance Level											
26												
27	Assuming Normal Distribution											
28	95% Normal UCL					95% UCLs (Adjusted for Skewness)						
29	95% Student's-t UCL				203.9		95% Adjusted-CLT UCL (Chen-1995)				206.2	
30							95% Modified-t UCL (Johnson-1978)				204.5	
31												
32	Suggested UCL to Use											
33	95% Student's-t UCL				203.9							
34												
35	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
36	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
37	and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.											
38	For additional insight the user may want to consult a statistician.											
39												

	A	B	C	D	E	F	G	H	I	J	K	L
1	Normal UCL Statistics for Uncensored Full Data Sets											
2	Lead North 1-3 Inch											
3	User Selected Options											
4	Date/Time of Computation		12/6/2013 4:00:03 PM									
5	From File		WorkSheet.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8												
9												
10	C0											
11												
12	General Statistics											
13	Total Number of Observations				19		Number of Distinct Observations				19	
14							Number of Missing Observations				0	
15	Minimum				70.6		Mean				197	
16	Maximum				454		Median				177	
17	SD				87.91		SD of logged Data				0.424	
18	Coefficient of Variation				0.446		Skewness				1.451	
19												
20	Normal GOF Test											
21	Shapiro Wilk Test Statistic				0.895		Shapiro Wilk GOF Test					
22	5% Shapiro Wilk Critical Value				0.901		Data Not Normal at 5% Significance Level					
23	Lilliefors Test Statistic				0.142		Lilliefors GOF Test					
24	5% Lilliefors Critical Value				0.203		Data appear Normal at 5% Significance Level					
25	Data appear Approximate Normal at 5% Significance Level											
26												
27	Assuming Normal Distribution											
28	95% Normal UCL					95% UCLs (Adjusted for Skewness)						
29	95% Student's-t UCL				232		95% Adjusted-CLT UCL (Chen-1995)				237.4	
30							95% Modified-t UCL (Johnson-1978)				233.1	
31												
32	Suggested UCL to Use											
33	95% Student's-t UCL				232							
34												
35	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
36	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
37	and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.											
38	For additional insight the user may want to consult a statistician.											
39												

	A	B	C	D	E	F	G	H	I	J	K	L
1				Gamma UCL Statistics for Full Data Sets								
2	User Selected Options			Lead Northern 3-6 Inch								
3	From File			WorkSheet.wst								
4	Full Precision			OFF								
5	Confidence Coefficient			95%								
6	Number of Bootstrap Operations			2000								
7												
8												
9	C0											
10												
11	Number of Valid Observations					19						
12	Number of Distinct Observations					19						
13	Minimum					105						
14	Maximum					582						
15	Mean					222.4						
16	Median					191						
17	Standard Deviation					120.1						
18	Variance					14426						
19	k star (bias corrected)					3.893						
20	Theta Star					57.13						
21	nu star					147.9						
22	Approximate Chi Square Value (.05)					120.8						
23	Adjusted Level of Significance					0.0369						
24	Adjusted Chi Square Value (.05)					118.7						
25												
26	Anderson-Darling Test Statistic					0.443						
27	Anderson-Darling Critical Value					0.744						
28	Kolmogorov-Smirnov Test Statistic					0.15						
29	Kolmogorov-Smirnov Critical Value					0.199						
30	Data appear Gamma distributed at 5% Significance Level											
31												
32	95% UCLs (Adjusted for Skewness)											
33	95% Adjusted-CLT UCL					279.1						
34	95% Modified-t UCL					271.9						
35												
36	95% Non-Parametric UCLs											
37	95% Bootstrap-t UCL					291						
38	95% Hall's Bootstrap UCL					309.3						
39												
40	95% Gamma UCLs(Assuming Gamma Distribution)											
41	95% Approximate Gamma UCL					272.3						
42	95% Adjusted Gamma UCL					277.2						
43												
44	Potential UCL to Use											
45	Use Approximate Gamma UCL					272.3						
46												



	A	B	C	D	E	F	G	H	I	J	K	L
1	Normal UCL Statistics for Uncensored Full Data Sets											
2	Lead South 0-1 Inch											
3	User Selected Options											
4	Date/Time of Computation		12/6/2013 4:10:26 PM									
5	From File		WorkSheet.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8												
9												
10	C0											
11												
12	General Statistics											
13	Total Number of Observations				20		Number of Distinct Observations				18	
14							Number of Missing Observations				0	
15	Minimum				39.7		Mean				130.7	
16	Maximum				178		Median				134	
17	SD				33.11		SD of logged Data				0.332	
18	Coefficient of Variation				0.253		Skewness				-0.955	
19												
20	Normal GOF Test											
21	Shapiro Wilk Test Statistic				0.942		Shapiro Wilk GOF Test					
22	5% Shapiro Wilk Critical Value				0.905		Data appear Normal at 5% Significance Level					
23	Lilliefors Test Statistic				0.128		Lilliefors GOF Test					
24	5% Lilliefors Critical Value				0.198		Data appear Normal at 5% Significance Level					
25	Data appear Normal at 5% Significance Level											
26												
27	Assuming Normal Distribution											
28	95% Normal UCL					95% UCLs (Adjusted for Skewness)						
29	95% Student's-t UCL				143.5		95% Adjusted-CLT UCL (Chen-1995)				141.2	
30							95% Modified-t UCL (Johnson-1978)				143.2	
31												
32	Suggested UCL to Use											
33	95% Student's-t UCL				143.5							
34												
35	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL											
36	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
37	and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.											
38	For additional insight the user may want to consult a statistician.											
39												
40	Note: For highly negatively-skewed data, confidence limits (e.g., Chen, Johnson, Lognormal, and Gamma) may not be											
41	reliable. Chen's and Johnson's methods provide adjustments for positively skewed data sets.											
42												

	A	B	C	D	E	F	G	H	I	J	K	L
1	Normal UCL Statistics for Uncensored Full Data Sets											
2	Lead South 1-3 Inch											
3	User Selected Options											
4	Date/Time of Computation		12/6/2013 4:11:13 PM									
5	From File		WorkSheet.xls									
6	Full Precision		OFF									
7	Confidence Coefficient		95%									
8												
9												
10	C0											
11												
12	General Statistics											
13	Total Number of Observations				20		Number of Distinct Observations				18	
14							Number of Missing Observations				0	
15	Minimum				50.2		Mean				161	
16	Maximum				355		Median				153	
17	SD				67.2		SD of logged Data				0.422	
18	Coefficient of Variation				0.417		Skewness				1.222	
19												
20	Normal GOF Test											
21	Shapiro Wilk Test Statistic				0.921		Shapiro Wilk GOF Test					
22	5% Shapiro Wilk Critical Value				0.905		Data appear Normal at 5% Significance Level					
23	Lilliefors Test Statistic				0.168		Lilliefors GOF Test					
24	5% Lilliefors Critical Value				0.198		Data appear Normal at 5% Significance Level					
25	Data appear Normal at 5% Significance Level											
26												
27	Assuming Normal Distribution											
28	95% Normal UCL					95% UCLs (Adjusted for Skewness)						
29	95% Student's-t UCL				187		95% Adjusted-CLT UCL (Chen-1995)				190.1	
30							95% Modified-t UCL (Johnson-1978)				187.7	
31												
32	Suggested UCL to Use											
33	95% Student's-t UCL				187							
34												
35	Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.											
36	These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)											
37	and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.											
38	For additional insight the user may want to consult a statistician.											
39												

	A	B	C	D	E	F	G	H	I	J	K	L
1				Gamma UCL Statistics for Full Data Sets								
2	User Selected Options			Lead South 3-6 Inch								
3	From File			WorkSheet.wst								
4	Full Precision			OFF								
5	Confidence Coefficient			95%								
6	Number of Bootstrap Operations			2000								
7												
8												
9	C2											
10												
11	Number of Valid Observations					20						
12	Number of Distinct Observations					19						
13	Minimum					74.7						
14	Maximum					305						
15	Mean					152.4						
16	Median					135.5						
17	Standard Deviation					60.14						
18	Variance					3617						
19	k star (bias corrected)					6.68						
20	Theta Star					22.81						
21	nu star					267.2						
22	Approximate Chi Square Value (.05)					230.3						
23	Adjusted Level of Significance					0.038						
24	Adjusted Chi Square Value (.05)					227.6						
25												
26	Anderson-Darling Test Statistic					0.427						
27	Anderson-Darling Critical Value					0.743						
28	Kolmogorov-Smirnov Test Statistic					0.136						
29	Kolmogorov-Smirnov Critical Value					0.194						
30	Data appear Gamma distributed at 5% Significance Level											
31												
32	95% UCLs (Adjusted for Skewness)											
33	95% Adjusted-CLT UCL					178.6						
34	95% Modified-t UCL					176.3						
35												
36	95% Non-Parametric UCLs											
37	95% Bootstrap-t UCL					182.7						
38	95% Hall's Bootstrap UCL					184.6						
39												
40	95% Gamma UCLs(Assuming Gamma Distribution)											
41	95% Approximate Gamma UCL					176.8						
42	95% Adjusted Gamma UCL					178.9						
43												
44	Potential UCL to Use											
45	Use Approximate Gamma UCL					176.8						
46												



**VALIDATION REPORTS  
AND  
LABORATORY DATA PACKAGES  
(on Disk)**